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PHILADELPHIA, OCTOBER 2, 1886.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON CASES OF PAINFUL AFFECTION OF THE FOOT.

BY THOMAS G. MORTON, M.D.,

One of the Surgeons to the Pennsylvania Hospital; also Surgeon to the Philadelphia, Orthopædic, and Jewish Hospitals; Emeritus Surgeon to the Wills Ophthalmic Hospital; Consulting Surgeon to the Woman's Hospital and to the Pennsylvania Institution for the Instruction of the Blind, etc.

SOME ten years ago I published an account of a "Peculiar and Painful Affection of the Fourth Metatarso-Phalangeal Articulation," and reported a number of cases of an affection of the foot involving the proximal joint of the fourth toe.* I then stated that I considered this malady of sufficient importance to be brought to the notice of the profession generally, especially as it unquestionably had not been recognized before that time.

My attention was first directed to this peculiar affection in 1870. After a careful study of a case which came under my observation at that time, I became convinced that I had an unusual condition to deal with. In this instance the symptoms were so clearly marked, and my patient, who was an intelligent woman, gave such a positive account of her painful malady, that I was satisfied that I had to treat a condition which had not previously been described by systematic writers or in the medical journals, at least as far as I was aware. Since that time I have had such a number of these cases coming under my observation, and have learned of so many others in the hands of medical friends, that I have no hesitation in saying that the disease is a very common one, and that even up to the present time it has not been recognized by the profession as it should be.

This neglect or apparent indifference on the part of the profession may perhaps be due to the fact that the foot, to most persons, is not a very interesting portion of the human frame, so that, as a rule, a sufferer with any painful condition of the feet presenting no conspicuous abnormality is usually referred to the chiropodist, who is only able to cope with the simplest affections of this important region. Too often it happens that the general practitioner dismisses the cases which I shall describe as beneath his consideration: the pain is looked upon as a form of gout or rheumatism, even where this is not sustained by the family or personal history of the patient, and the case is sent away with directions to get less fashionable shoes, or with some other trifling recommendation, no diagnosis having been made. Consequently, the sufferer remains unrelieved, and in time settles down to the conviction that he is the victim of some constitutional or incurable malady; and so he goes on, suffering periodical attacks of almost intolerable agony with a disease which, if properly understood, could be readily and permanently cured.

This painful joint-disease, which is strictly local, may be of a mild or a severe type. Cases of the mild form of the affection, which are said to be bearable, may develop into the severe form. In them occasional attacks of pain are followed by periods of complete immunity, the neuralgia coming back again from time to time. The cases of the severer form are usually so from the commencement: they frequently result from a sprain or twist of the anterior portion of the foot or from undue pressure of a shoe. Occasionally the neuralgia has appeared simultaneously in both feet; in such cases it may be dependent in part upon ill-fitting shoes: indeed, in two cases I have seen the disease was undoubtedly induced by ill-fitting ready-made shoes, and in one case the pain came on at once in both feet from a similar cause.

In my first account of this disease I only mentioned pain occurring in the metatarso-phalangeal joint of the fourth toe; but I have since seen instances in which the corresponding joint of the third toe was involved. Dr. Erskine Mason, of New York, has published the report of a case of metatarso-phalangeal neuralgia which he successfully treated by excision of the joint of the second toe.†

I have made some extended inquiries among the larger retail shoe-dealers, in order to find out if their attention had ever been called to this painful condition of the foot by their customers. I learned that this peculiar condition has not only

* American Journal of the Medical Sciences, January, 1876.

† American Journal of the Medical Sciences, Oct. 1877.

been frequently recognized by them, but that it is also considered to be quite common. Almost every intelligent shoe-retailer has seen a number of persons to whom this disease has been a source of frequent suffering, and who believe their malady to be beyond relief by medical art. Indeed, it would seem that in some of the most severe of the cases it has been found impossible to obtain the serious consideration of their condition by their medical attendants.

The history given by the patient will generally be like the following, which should be sufficient to lead to a correct idea of the trouble. One of my patients wrote as follows:

"During the summer of 1868, while travelling in Switzerland, I made a pedestrian tour to the valley of the Faulhorn Mountain, and when descending a steep ravine I trod upon quite a large stone, which rolled from under my foot, causing me to slip, and throwing my entire weight upon the forward foot: though not falling, I found my right foot injured. The pain was intense and accompanied by fainting sensations. With considerable difficulty I reached the valley of the Grindelwald, where for hours I endured great suffering. After this I found it impossible to wear a shoe even for a few moments, the least pressure inducing an attack of severe pain. At no time did the foot or toe swell or present any evidence of having been injured. During the succeeding five years the foot was never entirely free from pain: often my suffering has been very severe, coming on in paroxysms. I have been only able to wear a very large shoe, and only for a limited space of time, frequently being obliged to remove it to relieve the foot. Much of the time I have gone without any covering except a stocking, and even at night have suffered intensely: slight pressure of the finger on the tender spot causes the same sensation as wearing a shoe. During the past year or so I have walked but little, and consequently have suffered much less."

In this case a twisting of the foot was followed by acute pain, which was succeeded by permanent local sensitiveness or tenderness and neuralgia, brought on by pressure of the shoe or stocking, and sometimes without any known cause. The pain was always referred to the metatarso-phalangeal joint of the fourth toe, but during the severe paroxysms it extended up the limb as far as the knee and hip. On examination there was found neither redness nor swelling of the foot. The head of the fourth metatarsal bone, with the adjoining phalangeal base, was exceedingly sensitive, and pain was caused by the slightest pressure. In this case, at my suggestion, a deep excavation was made in the sole of the shoe which she wore, which was sufficiently broad to permit the affected joint to be as free as possible from pressure, and local anodyne applications were made, but the patient obtained no relief. I then considered the propriety of excision of the joint; but the patient was threatened with pulmonary disease and not in a condition to undergo any treatment that would confine her indoors. In June, 1873, I again saw this patient, on this occasion in consultation with Dr. Ellwood Wilson. There had been no improvement in the affected joint from treatment during this period. A short time before visiting this patient, however, in the same year, I had had under my care a similar case which I had successfully treated by excision of the painful joint, but neither Dr. Wilson nor I deemed it advisable to perform this operation upon this patient, on account of her impaired physical condition.

In the following case an operation was successfully performed.

In March, 1873, I was asked to see Miss H. S., aged 26 years, who, while in Europe four years before, had injured her right foot by stepping upon a small stone. She said that she had at once experienced intense pain, which was soon followed by slight swelling and redness. From the date of the injury localized pain in the foot continued, especially while wearing a shoe. The pain was referred to the head of the fourth metatarsal bone. There was constant distress in the part, often of a sickening character. After wearing a shoe, pain came on with great intensity. At such times the shoe had to be instantly removed, the least delay causing a paroxysm of great suffering. The boot or shoe had to be removed so often that a slipper was substituted. A marked lameness was induced by the patient's endeavor to spare the foot in walking. The pain was confined to the joint of the fourth metatarsal bone with the base of the associated phalanx. Pressure in this region or rolling the fourth and fifth toes upon each other caused violent pain, which extended up the limb. It was severe when pressure was made upon the base of the first phalanx of the fourth toe, which could be prominently felt between the third and fifth toes. Rest, anodynes, and other applications failed to relieve this patient. Dr. William Hunt, who had frequently seen this case in consultation, agreed with me in advising excision of the joint.

On March 22, 1873, after etherization, an incision two inches in length was made on the outer edge of the extensor tendon of the fourth toe; the metatarso-phalangeal articulation was then opened, and a portion of the shaft of the metatarsal bone, with the head of the bone, was excised; likewise a quarter of an inch of the shaft of the phalanx. The wound soon closed; the toe was shortened half an inch by the operation. The patient has since visited Europe on two occasions, and has remained in perfect health, and has been able to wear any form of shoe.

This, and the following cases, may be taken as types of the disease, of which I reported thirteen cases in my first paper, and have seen more than twice as many since, and several have been reported in the medical journals.

The following cases are such typical illustrations of the affection that I abstract them from a previous article upon this subject.*

Dr. M. W. Alison, of Hagerstown, Maryland, called on me in the spring of 1875, seeking relief from neuralgia in his right foot, which had existed for years and was gradually getting worse, and stated that he was willing and ready to submit even to amputation of the leg. He gave the following history:

"About six years ago I experienced an unpleasant painful sensation in my right foot, which possibly originated in a strain: the pain was first observed in the fourth metatarso-phalangeal region; in the course of a fortnight it was followed by most violent pain, which was simply unbearable and so severe that it terminated in a convulsion. A painful condition of the parts followed, and with the least provocation (wearing a shoe or boot), sometimes without known cause, paroxysms of intense pain returned at various intervals, lasting from one to forty-eight hours. The pain, with one or two exceptions, has been confined entirely to the section of the foot indicated. My suffering has been beyond all comprehension: very often I have been compelled to jump from my buggy or stop while walking, remove my boot, which has always been of ample size, apply ligatures to the limb or foot, use hypodermic injections of morphia, frictions, or call upon some one to assist me by standing on the foot. This affliction has been the burden of my life, and this burden has been increased after consulting many eminent medical men, who gave me no satisfaction as to the nature of the disease, nor even suggested a hope of relief. My health otherwise has been uniformly good. I am satisfied the cases you have had are similar to my own save in the intensity of my sufferings, and I shall gladly submit to the operation you have suggested."

Operation.—June 15 I made an incision on the upper side of the fourth metatarsal bone, the shaft of which was divided half an inch beyond the head of the bone; the base of the first phalanx was also removed; the toe was then found to be so isolated that it was removed; the adjacent soft parts were dissected away to insure the excision of the surrounding nerve. On the third day Dr. Alison left the city, and subsequently wrote, "Am happy to report all right; have not experienced any pain whatever, and am feeling better than I have for years, and feel assured that the operation will give me permanent relief."

In April, 1872, Mr. W. K. M., of Rome, Noble County, Indiana, wrote me as follows: "I am a carpenter, and have been a hard-laboring man all my life. In 1866 I was suddenly seized with pain in the joint of the fourth toe of my right foot; at times was obliged to pull off my boot and sock, which gave me relief; many times I would wear my boot without my sock; at times the toe would puff up and become numb. In 1867 it was worse; I wore a larger boot, but was often very lame. In 1870 I had to use a cane, but kept at work until two years later, when I was unfit for business, for the pain was nearly constant.

"The disease was called rheumatism and gout; rest and quiet proved the best remedy for the time; the neuralgia then extended to the back of my heel, and was an aching, heavy, dead pain, so that I could not even bear the weight of the bedclothes."

In December, 1876, this patient came to Philadelphia. An examination showed the usual pain on pressure; the foot was normal in appearance. As there was some tenderness also in the same joint of the third toe, I excised the joints of the third and fourth toes.

Some months later Mr. M. wrote me, "My foot was tender for some time after I came home; but at the present time it is well. I have no pain, and can safely say that it is a permanent cure, and feel satisfied that the operation has saved my life." Four years later this patient reported himself as perfectly well and no lameness, and that he had worked steadily since his return.

Dr. Thomas, of Savannah, Georgia, also wrote me in 1876, reporting a case which had come under his notice: "I think your article throws some light on a case which has been under my advice for several years, and I have looked in vain through some of the surgical authorities for guidance. The patient is a young lady, with every comfort around her. For the past three or four years she has suffered with a severe pain in the fourth

* Surgery in the Pennsylvania Hospital, article entitled "Painful Affection of the Foot." Philadelphia, 1880. P. 109.

metatarso-phalangeal articulation of the left foot, sometimes brought on by long walks, and at other times without any immediate provoking cause. She does not know that she has ever hurt the part, though possibly has sprained it, but not enough to have noticed it. There has never been any swelling or redness perceptible, but always more or less sensitiveness to pressure or the touch. The joint, when handled, appears to be too loose; otherwise no abnormal indication save the pain.

"I have tried many things in the way of treatment, but all without proper success. She has applied tincture of iodine, belladonna plaster, capsicum plaster, etc. There are times when she thinks that a comfortable-fitting shoe feels better than a looser one. My impression is that this neuralgia, or whatever it may be called, is more common than we would at first think, and the profession may be grateful to you for the article mentioned."

The following graphic description is from a medical friend who has himself suffered from the more severe form of this neuralgia:

"PHILADELPHIA, January 1, 1877.

"I have read with pleasure and profit your paper on a 'Peculiar and Painful Affection of the Foot.' Thinking it might be interesting to you, I send you an account of my own case.

"I have suffered intensely at intervals from this affection for many years, and in all this time have never found medical man or layman who understood what I meant when I complained of it or alluded to it. It has been pronounced by surgeons who have examined my foot to be a subluxation or a malformation of the articular surface of the first phalanx of the fourth toe, where it articulates with the fourth metatarsal bone, the concavity not being sufficiently concave. This I have long been convinced is an error. By other eminent authorities I have been conveniently 'pooh-pooh-ed.' By persons out of the medical profession I have been in my agony comforted by an 'Oh, tight boots.' I had at last despaired of making anybody understand my ailment, summoned all my patience, and suffered in silence.

"My own sensations have convinced me that the pain is caused by pressure upon a nerve, but what pressed upon the nerve I was unable to tell. The immediate necessity of removing the boot and the relief afforded by manipulating the foot in a manner learned by experience pointed to a dislocation; but the reduction of the displacement was never sufficiently sudden and marked to confirm the belief that there had been a dislocation.

"Now, after living for more than half a century, practised my profession for over thirty years, and suffered half my life with an affection not understood and ranked with a disease so trifling as a corn, I find myself enlightened and the mystery cleared up by your valuable paper on the subject.

"The first paroxysm occurred in my boyhood, and was produced by tight lacing of skate-straps. On unbuckling the straps, the 'cramp,' as I called it, was at first soon relieved and thought nothing of; but a continuance of this system of squeezing by tight straps and tight boots, and riding for hours on horseback with the flexors of the leg and foot in violent action and the toes turned in, the attacks became more frequent, more painful, and the abnormal condition of the parts became chronic. These were in my case undoubtedly the causes predisposing. The causes determining the accession of a paroxysm are the wearing of a badly-fitting boot, especially if the sole be narrow; a long and fatiguing walk, particularly on a hot day over a hot pavement; a long ride on horseback; a wet boot sticking to the sock; a wet sock sticking to the toes; long-continued flexion of the knee-joint, as in a railroad-car, carriage, or lecture-room; treading on an uneven surface, as a cobblestone pavement; and, should the nervous system be depressed from any cause, these exciting causes will act more powerfully.

"The symptoms of an attack in my case are most intense pain, 'cutting to the heart,' sickening, a feeling that it is unendurable, faintness, cold sweat, total incapacity for the time of directing the mind or will to any other subject, a horrible increase of torture on the use of the boot-jack; and all this with no redness, no swelling, no abrasion of the skin, no callosity, no visible displacement of bones, at least after removal of the boot.

"The suddenness of the attack is noteworthy. I have been obliged to drop everything and remove my boot, sometimes in company, sometimes in my carriage. I have even been obliged to sit down on the curb-stone and remove the boot. I have dismounted from my horse and sent home for slippers before I could proceed. I have tied my horse to a tree and lain on the ground, unable to ride farther.

"I have spoken of a tight boot and of removing the boot, but I have had tight boots which were great favorites, because they would not 'let my toe out of joint.'

"The remedies from which I have obtained relief are removal of the boot and then manipulating the toes, straightening them out. When inconvenient to take off the boot, I have found that grasping the foot tightly round the metatarsal region will answer; and I have sometimes worn a circlet of india-rubber band, binding the foot round the instep. Putting on a dry boot and dry stocking is of great benefit, and the boot should be well sprinkled with powdered soapstone before putting it on. Frequently an attack has been relieved completely without other means than rest and a cup of strong tea."

These clinical notes of cases might be greatly extended, but the above will suffice to show the disabling and painful character of this affection and the propriety of the means adopted for its relief.*

Painful affections of the feet have long been known as a cause of disability among soldiers, but, so far as I can learn, the peculiar disorder under consideration has not been described as a cause of tender feet.

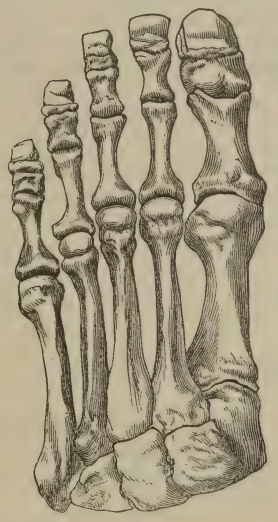
In order to satisfy my mind, I addressed a query upon this point to Surgeon J. S. Billings, of the Surgeon-General's Office, U.S.A., Washington, who replied under date of September 4, 1886, as follows: "I do not think there are any records of the special conditions which you describe as occurring among soldiers. Cases of excuse from duty on account of painful feet are occasionally reported, but these seem to be mostly of a temporary character, and are not described with sufficient fulness to make it certain what part of the foot is affected."

With regard to the etiology of this disease, I think that the explanation I have already given in a former paper has been supported by subsequent observation.

The occurrence of neuralgia may be understood by a reference to the anatomy of the parts. The metatarso-phalangeal joints of the first, second, and third toes are found on almost a direct line with each other, while the head of the fourth metatarsal is from one-eighth to one-fourth of an inch behind the head of the third, and the head of the fifth is from three-eighths to half an inch behind the head of the fourth: the joint of the third, therefore, is slightly in advance of the joint of the fourth, and the joint of the fifth is considerably behind the joint of the fourth.

The fifth metatarsal joint is so much posterior to the fourth that the base of the first phalanx of the little toe is brought on a line with the head and neck of the fourth metatarsal, the head of the fifth metatarsal being opposed to the neck of the fourth (see illustration).

On account of the character of the peculiar tarsal articulation, there is very slight lateral motion in the first three metatarsal bones. The fourth has greater mobility, the fifth still more than the fourth, and in this respect it resembles the fifth metacarpal. Lateral pressure brings the head of the fifth metatarsal and the phalanx of the little toe into direct contact



with the *head and neck of the fourth metatarsal*, and to some extent the extremity of the fifth metatarsal rolls above and under the fourth metatarsal.

The mechanism of the affection now becomes apparent when we consider the nerve-supply of the parts. The branches of the external plantar nerve are fully distributed to the little toe and to the outer side of the fourth; there are also numerous branches of this nerve deeply lodged in between these toes, and they are liable not only to be unduly compressed, but pinched by a sudden twist of the anterior part of the foot. Any foot-movement which suddenly may displace the toes, when confined in a shoe, may induce an attack of this neuralgia. In some cases no abnormality or other specific cause for the disease has been detected.

The question of treatment may be dismissed in a few words. In acute cases of this disease, where it has evidently been induced by an injury, the treatment should be by local depletion, anodyne applications, and rest, and, as in those less severe cases which do not seem to demand operative treatment, a suitable, broad-soled shoe should be worn, which should lace up in front.

The greatest comfort and often entire relief is afforded by the use of a narrow, fine flannel bandage, which should cover

* Feeling convinced that this is a comparatively common affection, Dr. Morton would be obliged to his readers if they will send him brief clinical notes of cases coming under their observation.

the anterior part of the foot moderately firmly, so as to give absolute steadiness to all the toes, and tight enough to prevent any rolling or movement of the joints or toes upon each other. In very many cases this simple treatment has, with a properly-constructed shoe, given entire comfort. Even in the most severe cases this treatment should be fairly tried before an operation is decided upon.

In some cases, however, no treatment except excision of the irritable part will be of any service, and the excision of the joint of the toe, which is readily performed and quickly recovered from, will insure a complete and permanently good result.

ORIGINAL COMMUNICATIONS.

CHRONIC BRIGHT'S DISEASE OF THE KIDNEYS.

BY J. H. PRICE, M.D.,
Elmira, New York.

AN eminent authority says, "Kidney-disease is probably the most frequent cause of death in this climate,—in adults, a more common cause of death than consumption."

That the number of deaths from chronic Bright's disease is yearly increasing may be readily ascertained by a study of the vital statistics of the tenth United States census.

It is nearly one-third more frequent in males than in females, and this excess obtains at every age. Millard "thinks the explanation of this is to be found mainly in the fact that the male sex undergoes more exposure to unfavorable atmospheric influences, and that the same sex is more liable to renal and urethral inflammations, as well as calculus." The mortality from chronic Bright's disease shows a progressive increase from childhood to nearly the age of sixty; during the next fifteen years the mortality continues steady at a somewhat lower rate.

The consequences of chronic Bright's disease may be best understood by remembering what the functions of the kidneys are: viz., primarily to maintain the blood at a proper specific gravity by removing excess of water and excess of salts from it, as well as special nitrogenous excreta; the duty of the kidney is to regulate the quantity as well as the quality of the blood. Should these functions be inadequately performed through harmful external or internal influences, we will have retention and accumulation of excreta in the blood to interfere with the assimilative nutritive changes, making their way out of the body by the intestines, skin, or, later, provoke inflammatory changes. While there are at least three well-recognized forms of chronic Bright's disease, each presenting considerable diversity as to cause, modes of origin, and symptoms, yet they have points of resemblance so strong and so numerous that they form an easily-recognized clinical group. This resemblance is due in a great measure to the fact that the structural changes in the kidneys, however varied, produce the same ultimate results,—namely, impoverishment of the blood from loss of albumen, with retention of effete matters of the urine,—and the more prominent symptoms of chronic Bright's disease arise from the changed composition of the blood and changes in the vascular system,—namely, thickened arteries, obliterated capillaries, and consequent interference with glands.

The symptoms in chronic Bright's disease are often influenced by a family tendency. Patients who come from a dyspeptic family complain of gastric disturbances, as nausea and vomiting; those who come from a phthisical family first present some pulmonary difficulty, as asthma, bronchitis, or frequent and very severe coryza; others have a tendency to nervous complaints, and will complain first of severe and persistent headache and results. These facts should lead us to look to chronic Bright's disease a good deal more than to almost any other chronic disease for the cause of obscure affections, and it is for this reason I make it a routine habit to examine the urine in every case of chronic disease coming under my care. In chronic Bright's disease any one of the principal organs of the body may be affected. Apoplexy, as is well known, is a serious and frequent accident, especially in the aged. It has been shown by statistics that three-fourths of the cases of apoplexy are due to chronic Bright's disease. If this fact were early recognized, much might be done to prevent this terrible accident. Millard, relative to this point, says, "In a numerous class of cases, nephritis exists in persons of good constitutions without assuming such proportions as to produce noticeable symptoms or seeming to deteriorate the health, and without being accompanied by the

presence of albumen. It is this class of cases, however, which frequently is accompanied by atheroma of the arteries, leading to apoplexy, without the ultimate cause of death ever having been suspected."

Chronic parenchymatous nephritis, chronic interstitial nephritis, and the waxy or amyloid kidney are the three best-known forms of chronic Bright's disease. These forms may be blended or combined, chronic parenchymatous nephritis in the vast majority of cases being primarily chronic or subacute; chronic interstitial nephritis, though said to have an acute origin in exceptional cases, is very rarely recognized as such, and may be practically considered primarily chronic; the waxy or amyloid kidney, as its name indicates, is always a chronic disease. By far the most prolific causes in common, observed both in chronic parenchymatous and chronic interstitial nephritis, are atmospheric conditions, damp, cold, unfavorable climate, check of perspiration, etc.; other causes, as malarious poisoning, syphilis, scrofula, alcoholism (from this cause more often secondary to changes in the liver than direct), lithæmia, pregnancy, heredity, cystitis, gout, lead-poisoning, and valvular disease of the heart coming next in frequency. The waxy or amyloid kidney may be consequent upon chronic parenchymatous nephritis or some dyscrasia, as syphilis, chronic abscesses, prolonged suppuration, Pott's disease, caries, etc.

The symptoms of chronic parenchymatous nephritis are increased frequency of micturition, the quantity of urine, however, being below normal; the urine, which amounts in health to about fifty ounces in twenty-four hours, is reduced in quantity to twelve or sixteen ounces, the amount of urea being proportionately small; the specific gravity of the urine is usually higher than normal; the urine is always albuminous. The albumen, which in healthy blood is sixty-five in one thousand, in this disease is reduced to about sixteen parts. About the same time with the increased frequency of urination a certain amount of lassitude is developed; the patient experiences a loss of energy and physical strength. These symptoms are frequently accompanied by some renal pains which are often mistaken for rheumatic pains; persistent and unmanageable headaches and dyspeptic symptoms are common; pallor of the complexion, presenting a peculiar ashy whiteness, is often noticed. These conditions do not fail to be followed soon by the tell-tale œdema of the eyelids or of the feet; nausea usually supervenes at an early stage; where the disease is further advanced there is emaciation, often marked anasarca, dropsy of the cavities, and also œdema of the mucous membranes, lungs, and intestines; in the advanced stages the dropsical effusions take the place of the urinary secretion. It is in this form of nephritis that dropsical affections are most frequent, occurring in most cases, and assuming their most formidable aspects, sometimes producing sloughing of the cellular tissues. An important fact concerning the existence of albumen in this form of nephritis is that it is never absent, and is often present in much larger quantities than in any other form. The amount of uric acid excreted does not vary much from the normal; urinary casts are always to be found, the granular cast being indicative of this form of nephritis and usually predominating; hyaline casts, and in certain conditions of the kidneys waxy and fatty casts, may usually be found. When there is pyelitis or ulcerative destruction of the kidneys, we often find shreds of connective tissue; pus-corpuscles and epithelia from the tube-system are always present, with a few blood-corpuscles. The above phenomena in the urine usually denote chronic parenchymatous nephritis, with acute recurrence.

Upon the subject of chronic interstitial nephritis, Millard says, "There is no organic disease which lingers so slowly in its apparent development as this form of nephritis: apparently even good health may be enjoyed after its development; uræmic headaches may even occur without albumen ever being found in the urine." Its early progress is often remarkably insidious, and readily escapes recognition, one of the first symptoms noticed perhaps being a gradually-increasing loss of strength; severe and persistent headaches, loss of appetite, nausea, bilious derangements, flatulence, diarrhœa, etc., being next in frequency; disturbances of vision, as seeing bright or dark specks or a haziness before the eyes, and a peculiar stare is sometimes noticed, among other symptoms; an unhealthy look is often developed, sometimes anæmic and usually pallid; the features appear blighted, and the hair may change its natural color to the

premature hue of old age; a frequent desire to urinate, the urine being passed in considerable quantities, soon becomes noticeable (the patient often is obliged to rise several times in the night to urinate); the urine is generally pale, clear, often soapy-looking; the specific gravity is usually low (1000 to 1014). Deep-seated violent pains in the limbs are not uncommon; bronchitis, asthma, pericarditis, and pneumonia are frequent complications in chronic interstitial nephritis; disturbances of the nervous system are frequent; the most amiable and sanguine dispositions may become morbidly depressed, peevish, suspicious, and impatient; sometimes mania, with suicidal tendencies, is developed; later on, intense itching over the whole body, and a urinous smell.

Coma is more likely to occur in this form of Bright's disease than convulsions, and is of serious import. One of the most constant and characteristic lesions of chronic interstitial nephritis is hypertrophy of the left ventricle, generally without valvular lesion: that this exists almost always in advanced stages is generally conceded.

Another sign which almost never is absent in advanced stages is a feeling of a uniform thickness of the arteries, like a smooth wire. It differs from senile thickening in that the latter is not uniform, but feels like a string of beads. The pulse is incompressible,—that is, requires a great amount of pressure to stop it. Hemorrhagic attacks are more common in this than in any other form of nephritis: they take place from the nose, from the stomach, and within the cranial cavity. Apoplexy as a cause of death in chronic interstitial nephritis is very common; dropsy does not occur, though there is often œdema of the eyelids and sometimes slight œdema of the feet; œdema of the lungs often brings about a fatal termination. "In regard to the presence of casts and albumen, it may be said that in the progress of a particular case nearly all forms of casts may be encountered, but a preponderance of any one of them affords an indication of the exact state of the kidneys: the apparent absence of casts from albuminous urine is no absolute proof of the non-existence of renal degeneration."

Chronic interstitial nephritis is not to be detected by the familiar and easy plan of testing for albumen alone. It has been shown by Millard that "this form of chronic nephritis may for a long time exist, and even produce cirrhosis, without albumen ever existing in this form of nephritis." Bartells says, "Albuminuria is no constant symptom in this affection." In many cases albumen is found in very small quantities in the urine, at irregular intervals, requiring the most delicate chemical tests to demonstrate its presence. Professor W. H. Thompson says, "We may take as a rule that in about one-half the cases of six months' duration albumen will be found in the urine, in the other half it will be absent. Albumen is probably absent in about one-third of the cases from the beginning to the end of the disease." Dr. Millard, who has had an immense experience, says, "The conclusion that nothing is the matter with the kidneys because after several examinations of the urine no albumen is found is sometimes literally a fatal error: yet how numerous are the instances where, after the orthodox one or two chemical examinations, the kidneys are pronounced healthy!" He adds, further, that these false conclusions are not reached, as a rule, by the illiterate and uneducated practitioner exclusively, but by medical men who are considered eminent. To test simply for albumen, and that only once or twice, is often useless. It must be tested repeatedly; the quantity, specific gravity, and chemical peculiarities must be carefully noted; and, *most of all*, the phenomena *disclosed by the microscope* must be considered. Casts are comparatively rare in the urine of these patients, the hyaline variety predominating. Epithelia and oxalate of lime crystals are usually present. Much time and patience are sometimes indispensable to the examination of the urine of chronic interstitial nephritis, as it may vary greatly.

The waxy or amyloid kidney is a disease easy to recognize during life, perhaps more so than either of the other forms of renal disease. Extensive œdema and ascites mark this form; the urine is pale, watery, and passed in large quantities; albumen is sometimes found in the urine in large amounts, also numerous hyaline and fatty casts, the specific gravity being moderate. This form of nephritis is the most dangerous, hopeless, and rapid.

The great leader of the profession in this country, the late elder Dr. Austin

Flint, in a recent paper entitled "The Elements of Prognosis in Bright's Disease," said that in the popular mind the "name 'Bright's disease' at the present time had a prophetic import not unlike that of a verdict of conviction after a trial for life. It was regarded as a hopelessly fatal malady." In considering the elements of prognosis in cases of chronic Bright's disease, he said, "1st, the kidneys must not be damaged beyond a certain degree; 2d, the important organs of the body other than the kidneys must be capable of performing their respective functions satisfactorily; 3d, the laws of health relating to alimentation, exercise, etc., must be observed. Suppose these conditions to be fulfilled and a lesion of the kidneys to exist which diminished their functional activity one-half, and the disease was not progressive; life and health would be compatible with the existence of chronic Bright's disease for an indefinite period." Drs. Janeway, Draper, Delafield, Loomis, and Barker corroborated the conclusions drawn by Dr. Flint. Dr. James Tyson says, "It is a popular error that Bright's disease means death," and that he would rather have Bright's disease than phthisis. Dr. W. H. Thompson says, "If you can get the kidneys to secrete urine of 1025 in specific gravity, and in quantity a pint and a half for the twenty-four hours, you can give a good prognosis." Dr. Millard says, "It is by no means necessary to take a despondent view of the situation because casts, renal epithelia, or albumen are generally found. Other conditions, as the rational symptoms, the constitution of the patient, a decision, if possible, whether the disease is extensive or small in amount, must be considered before prognosis is formed. There are many well-marked cases in which the physician is justified in extending a most favorable and hopefnl vista, if not a cure, at least of practically good health."

These encouraging words from some of the most eminent and best qualified of the profession to speak upon this subject are fraught with significance. My own experience leads me to take a most hopeful view of the outcome of many of these cases under proper care and good treatment. This view is based upon the recovery of a number of apparently hopeless cases occurring in my practice, some of which I give to illustrate this fact. Many of the same remedies and measures of treatment apply equally in the different forms of chronic nephritis: still there are differences required, often of an essential and vital character. We will surely err if we rely solely upon drugs. It will be fortunate if the patient be so situated that he can have the advantage of rest, mentally and bodily. The influence of the latter has been shown to be of the greatest value in diminishing albuminous exudation from the kidneys. Fatiguing exercise must always be avoided. In unfavorable seasons of the year it might be important for the patient to have recourse to a southern climate. Bodily warmth is essential in all seasons of the year. If a patient can be made comfortable at home, I believe that to be the best place for him. The warm room, good nursing, food, etc., to be had at home among friends are of inestimable value in these cases. Fleece-lined or silk undergarments, according to the season, should be worn next to the skin the entire year. I would especially recommend for these patients the "Jaros hygienic underwear:" these garments are light, warm, and delightfully soft. They afford full protection to the body against sudden chilling. Dietetics are of great importance. In chronic parenchymatous nephritis nitrogenous food in proper quantities is beneficial; in chronic interstitial nephritis, the loss of albumen being small, animal food to a great extent should be avoided. In either case, if the patient be of full habit, a purely milk diet will give the best results. I furnish each patient with a diet-table, arranged to meet the special indications in his particular case.

The amount of animal food must depend upon its effect upon the patient's system and condition. Certain alcoholic beverages are sometimes useful, and do much towards stimulating the depressed energies and limiting waste of tissues.

Hot-air or vapor baths often serve a good purpose, and under the advice of a physician may be employed frequently. In advanced cases the use of jaborandi or pilocarpine may take the place of baths. The remedies that I have found most useful in the treatment of these cases are hydrarg. corrosiv. chloride, digitalis, quiniæ bisulph., citrate of caffeine, nitroglycerin, chlor. aurum et sodii, tinct. ferri chlor., and the mixture known as the "four chlorides."

There are many remedies that in special cases are very useful; but those mentioned have in my practice given the best results in the largest number of cases.

Case I. Chronic Intersititial Nephritis without Albuminuria.—C. E., aged 38, farmer, consulted me in March, 1880. Family history good. He had done service during the late war, and contracted chronic diarrhœa and "chills and fever," from which he suffered for several years. For the past two years his health has been miserable; could perform no manual labor whatever; for six months past the slightest exertion brought on terrific asthmatic paroxysms, vertigo, and palpitation of the heart; has severe headaches, insomnia, loss of appetite, constipation, and nausea; looks pale and emaciated. He had noticed swelling of eyelids and feet for some time past. The heart is hypertrophied, but no valvular lesion; pulse 110, with tense, wiry feeling; urine pale and soapy-looking; passes nearly six pints in twenty-four hours; specific gravity 1006; no albumen; hyaline and a few granular casts; kidney-epithelia and oxalate of lime crystals were seen under the microscope.

After three months of active treatment, improvement began, and continued up to the time I pronounced him cured, two years later. He does heavy work upon his farm all the year round, and is at this writing apparently as well as ever he was. During the first year he began to labor he would have an occasional "twist," as he expressed it, with his heart or the asthma. At no time during the progress of the case was albumen found in the urine.

Case II. Chronic Interstitial Nephritis without Albuminuria.—A. S., aged 28, single, waiter-girl, consulted me July, 1883. Family history not known. She had been losing strength and weight for a long time; she is pale, emaciated, and complains of a constant tired feeling, loss of appetite, sick headaches, vertigo, and dimness of vision; her heart troubles her a great deal; she is constipated, and has frequent desire to urinate. An examination revealed an enlarged heart, no valvular lesion, arteries hard and tense. She passes about four pints of urine in twenty-four hours, pale and watery, specific gravity 1010; a few hyaline casts only are seen under the microscope.

After eight weeks' treatment, she began to improve. At the end of the third month, contrary to my advice, she discontinued treatment. In April, 1884, I was called in haste to see her. I then learned that she had continued in fair health until the last of February, since which time she had rapidly grown worse. At the time of my visit she had experienced severe cramps in her abdomen and fallen to the floor in a faint. She had the appearance of being very ill with a fatal disease; but I determined to give her the benefit of active treatment. She rallied, and after weeks of anxiety she began to improve. In October, 1885, I pronounced her cured, and she has continued to enjoy good health since.

Case III. Chronic Parenchymatous Nephritis.—The husband of Mrs. L., aged 32, of Waverly, New York, wrote me in regard to her case in September, 1883. I sent directions how to prepare samples of urine to send to me for examination, also a list of questions, from which I learned the following history of the case. For two years past she had suffered from great lassitude and emaciation, dimness of vision, dull headaches (at times very severe and prostrating), nausea and vomiting, frequent attacks of bronchitis, frequent micturition in small quantities, swelling of the feet and body, much thirst. The urine contained a considerable amount of albumen and granular casts. Her case had been pronounced incurable by two physicians who had been treating her. I immediately put her under treatment. I saw her at intervals of a week for several weeks. At the end of twelve weeks she began to improve. I kept her under observation and treatment for two years, after which time I considered her cured. I saw her last week, and she continues in good health.

I could cite many more such cases ending in recovery; but these will, I hope, sufficiently prove to your minds that we need not necessarily give a gloomy prognosis because the symptoms are grave or because the case has been given up by other physicians; but let our motto ever be "*Nil desperandum.*"

VISITS TO THE FORUM OF THE WHIPPING-POST.

BY G. M. BRADFIELD, M.D., AND THOMAS H. ANDREWS, M.D.

(*Read before the Medical Jurisprudence Society of Philadelphia, and ordered to be printed by resolution of the Society.*)

TO labor through an encyclopædic essay upon the "scourge" would argue a poor appreciation of the honor conferred in inviting us to address you upon our personal observations and impressions of the whipping-post. Nor shall we dwell upon the historical aspects of our subject, merely observing, in passing, that whether in Rome, the symbol of retaliative justice, in Asia Minor, in the shadow of the Pyra-

mids, in Africa, or in the Western hemisphere as the awful adjunct to the dreadful crime of human slavery, wherever and whenever it has existed, the lash degraded the power that used it, and has been shown by experience to be brutalizing instead of civilizing in its effects.

The writers of this paper, having personally visited the locality, and on two occasions during the last year witnessed the public whipping of a number of men in a neighboring State, have thought an account thereof might be acceptable to the Medical Jurisprudence Society and visitors present.

In view of the suggested renaissance in our commonwealth of this ancient form of punishment, the facts as noted, as well as those elicited from worthy citizens of the locality where it is in vogue,—those of the experienced and of thinkers upon the topic,—will be presented as fully as our limited time will permit.

We are all well acquainted with the history of that quaint old county-seat or penal centre of the forum of Delaware,—New Castle,—with its ancient flavor, the straggling old court-house, jail, and market-house grouped around a cobble-paved square, and its background of river, flat horizon, and hazy atmosphere.

In the rear of the brown-walled prison, enclosed by a rough-hewn stone wall, is to be seen the engine of justice, its heavy oaken stem upholding, at ten feet in the air, a large, square platform, like a huge brown toadstool. This, in turn, supports a T-shaped upright, capped, at five feet, by a horizontal cloven plank with two pairs of arm-holes, through which the wrists of felons are pinioned. These constitute the pillory. The centre-post below, or stem of the whole, bearing at its sides, at more than forehead-height from the ground, two stapled iron hasps, iron-pinned, is the "whipping-post."

At our first visit, the culprits, one by one, stepped into the open air from a rear door of the prison, already stripped nude as to the upper parts of the body, the lower clothing held by the hands as they in turn approached the post in company with the warden. He deftly placed the unresisting wrists within the iron loops on the sides of the pillar, exposing the naked back from above the waist to the sheriff, who stood at the left side poising in hand the formidable "cat-o'-nine-tails," while the warden, posted opposite, read loudly from a tally-sheet in hand the prisoner's name, offence, and sentence.

When this ceremony was concluded, the whipping began. The sheriff, lightly raising his arm, using the forearm only, struck, after a sweep of a small part of a circle and not too hard, blow upon blow on the smooth, naked back, while the warden's harsh voice counted and scored each stroke.

The heavy whip, with its square-edged, snake-like length of many roughened thongs (as may be readily credited on inspection), could be made a horrible means of agonizing torture; and, permit us to say, this is perhaps the real cause both of the seeming strength and real weakness of this penal mode. The infliction lacks precision, which is an essential of justice. Punishment by the lash can never be an exact quantity; it "is variability itself," to quote Bentham; and when compared with that executed by unvarying mechanism, as wrist-suspension, treadmill, shower-bath, or the "solitary" among other not unharsh mechanical forms, it is uncertain, indefinite, unmanageable, incomputable, unsatisfactory,—ranging in severity from a bloody, sickening, flaying butchery to a mere perfunctory dusting of the offending back, in direct proportion to the sentiment or venality of the acting official.

While the actual number of blows must be a matter of fact, as per sentence, the location, the amplitude, the force of each may vary, as we witnessed, at the option of the officer. Here enters the element of personality, or personal feeling, which should not be a factor in any legal punishment.

There was apparently in the cases seen, if we except a decided involuntary convulsion towards the whip, but little cringing on the part of the men, and close after-inspection of their backs showed neither elevation nor breaking of the skin. On questioning them, there seemed to be a decided absence of any great indication of punishment. Three of the seven addressed spoke in the lightest vein of the affair, two of them repeatedly asserting that they would cheerfully submit to a repetition in lieu of their short terms of imprisonment of some six or eight months.

Of the seven, two were white; and even in these the cuticle of the back was not visibly affected by the operation.

Need we add that the sheriff and warden, as is notably the case in our land, were men of intelligence and feeling, and offered us every facility for our investigations?

In three of the cases above noted, one hour had been spent previously wrist-held in the pillory's elevated stocks on each of our visits, the hats of the men having been kindly adjusted by the deputies as a protection against the May sun or the November snow. The sixty minutes spent in this cramped, unmoving position seemed trying only to the taller of the subjects, but while in the pillory, as while firmly clamped, facing the flogging-post, there was still to be noted a decided self-consciousness, and a spirit of bravado not unmixed with a certain mental exaltation which is often to be seen in the objects of a public administering of penalty. This coolness—not to say assurance—under fire was shown in the case of one of the two white men by the following incident. After the sheriff had done his work, the hands of the supposed sufferer being quickly released, he was about to move away, but stood still for some minutes at the calm request of a photographer (not from Philadelphia), who had not as yet made his slow picture.

The whole effect of this scene might have been ingenuously refreshing, were it not for the obvious legal and medical questions involved. The legal mind, we think, might have decided these unfortunates as "out of court," and fit subjects for the "reformatory" only.

To the medico-legal mind they were, as shown by their histories, offences, and development, "moral idiots." One of them (white) suffered for petit larceny; was a kleptomaniac: he was convicted of stealing goods which had been brought to his own house, the fruits of a "donation-party." Another, with the rude *alias* of "Sugar Awful" (colored), had stolen his way through life, from the "sugar of infancy" to the pair of shoes at nineteen years, and had been publicly whipped more than seven times. Of the men whom we saw whipped, but one received the "cat" for the first time. After ten lightly-applied lashes to one client, the official said in a stage-whisper to one of the writers of this paper, "I heard the evidence in that man's case, and I am not assured as to his guilt, so you see I let him off easily." "It is the first time he was whipped," he said, significantly, after another case, where he had struck but airily, allowing the thongs to spend their light force upon the waistband of the fortunate culprit's trousers. "Thank you, sheriff," said another to that officer, after the castigation.

These exhibitions are open to the public, in a certain sense, and when the gates of the court-yard were thrown open, on the hour, we noticed that the populace in this case consisted of perhaps a score of unkempt urchins,—these apparently from face and garb had come only from that boys' lack of other interest which is common to their kind,—a few colored idlers, the officials, newsmen, and one or two of the oldest if not the most respectable inhabitants.

The good people of the town, with one accord, seemed to shrink from the affair, and in conversing on the subject seemed to take but a melancholy and deprecatory interest,—one or two declaring to the writers that the "next session of the Legislature would or ought to relegate to deserved oblivion this form of penalty."

As an offset to censure, which is so easy, let us hasten to say that occupying the same cell with that "Sugar Awful" and his companion, noted above, were two colored juvenile burglars, whom we talked with, and who we were told would not be whipped, but sent to the "reformatory school" now being finished.

We saw with satisfaction that the effect of the fate of these juniors was noticeably good upon their two room-mates, veterans of the "cat."

Another informant (conversing upon the topic of public whipping) asserted that the judiciary, being perhaps among the most venerable and august, only permitted this archaic anachronism from the inertia of precedent. It would appear that conservatism, that excellence of law, prevents the dropping of this penal form from the code, but does not hinder it being but rarely and then only lightly applied, and that chiefly to almost the same luckless individuals, who are presumably "used to it"!

It is likewise to conservatism that the opponents of the rehabilitation of this mediæval punishment look for its non-success in this State. A well-known educated resident gave as his opinion that whipping was a farce, the letter of the law and not its spirit,—the same culprits regularly returning to be whipped two, three, and four times. "However," he

said, "the increasing influx of immigrant artisans and residents from other States is rapidly leavening the community into broader views."

The facts reached by talks with the inmates of the jail showed that this punishment was never unaccompanied by, but was always additional to, imprisonment; that flagellation was entirely without any admonitory or preventive effect; was the award only of the lesser misdemeanors,—those against property and not against persons,—petty theft and larceny; was not a part of the sentence in the greater offences; was not unfrequently remitted by the pardoning power; was not applied to the more ambitious class of malefactors. The unanimous expression of the men within the bars was that the "odium of the lash" clung to one inevitably and irrevocably; while the stigma of imprisonment was not recalled, and did not leave the same evil reputation.

One man who has been for some time, and is now, incarcerated was flogged some years since to the extreme of cruelty, and, in the words of the officials and his fellow-prisoners, as well as his own, "this was the result of personal and family spite on the part of the powers that were and acted."

The penalty is, the writers think, retributive or retaliative, and Bentham says retaliation is "too expensive:" it "is incompatible with that apportionment which the law ought to make of the punishment to meet the several circumstances of aggravation or extenuation found in the offence."

The same venerable "utilitarian" authority quotes the "Arabs as being a vindictive people, to whom the retaliative laws of the Koran were pleasing," and quotes the "Chinese as endeavoring to govern the uncertainty and variability of flogging by iron rules as to the length and thickness of the bamboo to be used." But, to use his words, "the element of uncertainty is the degree of force of the stroke,—there as here." Again he says, "Its infamy is its weakness." In his book, "The Rationale of Punishment," as quoted above and as follows, he says, "Acute corporal punishments are exceedingly uncertain, unequitable; are extremely variable in intensity, but not in duration; the evil of the punishment must not exceed the evil of the offence: it is unprofitable if the official produces more than he has prevented."

Thus we have stated the economics of punishment according to Bentham.

Sir Edmund Du Cane, Inspector and Surveyor-General of Prisons, in his work published in London, 1885, states that "The pillory was there abolished in 1837; women were whipped, not always in private, almost to the end of the eighteenth century; and, while the enactment providing for flogging has not been repealed, public opinion has not permitted it for many years; that the Scotch law permitting schoolmasters to use the rod is honored not in the observance."

E. W. Cox, Serjeant-at-Law and Recorder of Portsmouth, England, in his work, London, 1877, says that "The very visible harshness of ignominious punishment, by inevitably rupturing the family relation of wife and children, will prevent in the greater number of cases the beaten wife from testifying against her brutal husband." This, please notice, in thickly-peopled England, where wife-beating is perhaps indigenous.

The Constitution of Pennsylvania of 1776, in the Bill of Rights, Section 39, Article II., says, "To deter more effectually from the commission of crimes by continued visible punishments of long duration, and to make sanguinary punishments less necessary, houses ought to be provided for punishment by hard labor," etc.

The Constitutions of Pennsylvania, both of 1790 and 1838, agree verbatim in the provision that prevents "cruel or unusual punishment." That of 1873, as amended, prohibits "cruel punishments."

One of the writers of this paper believes with Bentham, already quoted, that "could the variability of the penalty be removed by constructing a machine of rotating cylinders armed with a definite number of rattan-canes revolving at a known speed,—thus removing the personal factor which might be venial or sentimental,—then only would the punishment of whipping be admissible."

Facts, the other writer believes, bear him out in the statements that flagellation is not admonitory, is demoralizing and destructive of those better feelings, incentives to right-doing, inherent from education more or less in all men, and called conscience. It is not reformatory,—the victim's self-respect, in whatever de-

gree possessed, being rudely shocked; its very brevity admitting no thought, no repentance. It is in a degree ignobly, violently final, and no act of a pardoning power can restore the former condition. It is retaliatory, and would fulfil, in the circumstances under which its revival is thought of, the Hebraic law of "an eye for an eye," etc. Its sharp brevity outweighs its seriousness as a penal mode. It is reflected ignominiously upon wife and children, though desired to be aimed at her and their protection. It is brutalizing to the recipient, to the flogging officer, to the witnesses, to the community; being essentially a gruesome relic of that other relic of feudal barbarism, chattel-slavery!

To descend to the *argumentum ad hominem:* not the flogging, retributive teacher was the guide of our youth, but that one —admonitory, reformatory—who taught, guiding by unwavering but kindly firmness, iron-handed in a velvet glove, our wayward footsteps towards whatever of good may have been reached in life. This spirit, we think, is the spirit of the penal law of to-day.

In answer to letter-inquiries addressed by the writers of this paper to a number of experienced observers of this mode of punishment, the following responses were received. The police-captains of the several districts of Baltimore, six in number, are about evenly divided as to the effect of the law, now and for the last two years in force in that commonwealth, punishing wife-beaters at the whipping-post.

One captain writes, "The first case in my district was a colored man, charged with brutally assaulting his wife, tried, and sentenced by court to twenty-five lashes. Almost immediately after the sentence had been executed, the offence was repeated. In my judgment, the flogging of a white man is degrading, does not improve his moral nature, and is not a preventive of crime."

Another captain replies, "In answer to your inquiries as to the law inflicting whipping as a punishment for wife-beating, I beg leave to give the following opinion. I am unable to say that it is altogether a preventive, as a large majority of wife-beaters are men of drunken habits, who when sober regret having committed the offence, and when drunk know not what they do."

Another captain says, "There have been only two convictions in the criminal court under the law, and I find in the district of which I am captain that there are now very few arrests for assaults on wives, where before it was of almost daily occurrence, and I think to some extent the wives do not make complaints against their husbands as formerly."

Another captain responds, "It has had the very best effect, and we do not have half the number of wife-beating cases in the Eastern District that we had before the passage of the above law. The brutes dread the lash. I think, though, there are many cases where the wife silently submits to the cruel treatment of her husband rather than have him arrested and disgraced at the whipping-post."

Again, one captain writes, "Since the whipping-post law was inaugurated and men have suffered the penalty for brutally beating their wives, the offence has been less frequent. Whether this state of affairs is due to the severe punishment cannot be definitely ascertained; but the probabilities are that the law acts as a preventive. Men of the class of wife-beaters are deterred by the fear of physical suffering under the lash and of the disgrace consequent upon their undergoing the penalty. One partial explanation, however, of the comparative infrequency of the crime at present is the unwillingness of a woman to prefer a charge and afterwards testify against her husband, however brutally he may have beaten her. This fact was obvious before the law was passed, and naturally would be the case in a greater degree now. As to the reformatory and moral influences of the whipping-post, for both may be considered together, it is my humble opinion that they are null and void. True reformation is not compassed by means which, as experience in general demonstrates, tend to harden and brutalize a man. Reformation is produced by influences which appeal to the better nature of a human being; but, the castigation once administered, the offender goes out again into society reformed, it may be, in the one particular of wife-beating, but with such bitterness against the law and society which countenances that law that he may be led to commit wrongs against society greater than his original offence."

The same inquiries to the warden of Sing Sing Penitentiary brought this reply: "We have dispensed with flogging, tread-

mill, shower-bath, and all other punishments in this prison except the dark cell and suspension by the wrists. In my opinion the world is advancing, and going back to flogging as a means of punishment is a step backward towards barbarism, and consequently public whipping would lower the standard of public morals."

The warden of Joliet Penitentiary, Illinois, answers thus: "I have never seen a case of public whipping, and consequently know nothing of its effects from observation. My impressions are against it as a reformatory or preventive measure."

A letter of inquiry addressed to Hon. Frederick Douglas, ex-marshal of the District of Columbia, drew the following from that monumental man of his race:

"WASHINGTON, D.C., April 22, 1886.

"DEAR SIR,—If for any offence in the world a human being should be stripped to the waist and lashed till his warm red blood shall stain the earth beneath, it is the offence of subjecting his wife and the mother of his children to that torture; but I am not sure of the wisdom of this sort of retaliation. In resorting to flogging, something more should be thought of than the just punishment of the offender. We must consider the effect upon the man thus punished and the man who is required to administer the punishment; and if we succeed in whipping the brute out of the one and at the same time only whip the brute into the other, little has been gained to humanity and decency by the operation. I know of few things better calculated to blunt and destroy all humane sensibilities than tearing the living flesh of a man with a blood-clotted cow-skin. The man who does it is unfitted for all moral and humane influences, and diffuses brutality in every breath. Sad, indeed, it is for the world, if only by flogging can men be made to refrain from beating their wives. Wife-beating is generally the result of drunkenness. Men do not beat their wives when they are sober. The wise thing is not flogging the wife-beater, but to do away with that which makes him a wife-beater, and that is strong drink. I am for putting it out of the power of a man to get that which tends to make him such a brute. Prohibit the sale of ardent spirits, shut up the saloons, break up the drinking habit, and you will soon be rid of wife-beating.

"Coming from a condition of slavery as I have, where everything was done by the whip, I have perhaps a greater horror of flogging than I might otherwise have. Be this as it may, I would try many other expedients before I would resort to the whipping-post as a remedy for wife-beating.

"I write in haste, but I have said enough to indicate my views on the point upon which you have done me the honor to ask my opinion. Truly yours,

"FREDERICK DOUGLAS.

"To G. MILTON BRADFIELD, M.A., M.D., Recorder of the Medical Jurisprudence Society of Philadelphia, Pennsylvania."

REPORT ON TOXICOLOGY AND STATE MEDICINE.

BY GEORGE H. ROHÉ, M.D.

(Continued from vol. xvi. page 925.)

II.—STATE MEDICINE.

ADMINISTRATION OF SANITARY LAWS.

DR. O. W. WIGHT, the efficient health-officer of Detroit, read a paper before the Michigan State Medical Society, in which he pointed out the necessity of a new plan of public sanitation. He proposes that the county shall be the unit of sanitary administration. A tax of ten cents per capita should be levied by the State for sanitary purposes. In a county of thirty thousand inhabitants this tax would produce (if collected) three thousand dollars per year. One-half of this should go to pay the health-officer, who should be a physician; the other fifteen hundred dollars should pay the salaries of a clerk and an inspecting-officer. There should be a county board of health, composed of two physicians and one lawyer, to serve without compensation. They should be appointed by the board of county commissioners; the board of health should appoint the health-officer, and the latter should appoint his clerk and inspector. "The health-officer thus appointed, before qualifying and entering upon his duties, should be required to undergo an examination by the State board of health, for the purpose of having his fitness for the place fully determined. In addition to his medical knowledge, he should also know the elements of sanitary engineering, of chemistry, and of the law of nuisance; he should be perfectly familiar with the laws which he is to administer; his executive capacity and his character for industry, impartial justice, discretion, and moral courage should be taken into consideration. His tenure of office should be during good behavior, and he should be clothed by law with the necessary powers of independent action."

[When the millennium arrives, some such

scheme as that proposed by Dr. Wight may work. His own experience with boards of health and council committees has doubtless shown him that his plan is premature. The model health-officer for years to come will be of the prevailing type of ignorant, time-serving politician. Whether he has M.D. as a pendant to his name does not much matter. In fact, the medical politician generally has even less backbone than the other sort when the "boss" demands places in the department for his favorites.—R.]

THE UTILIZATION OF SEWAGE.

Want of success in disposing of solid excreta, whether collected by means of the dry-earth, Rochdale, or Liernur systems, has led American sanitarians to turn hopefully to the intermittent infiltration system, as practised in many places in Great Britain, Germany, and France. In this country the system—in combination with the separate system of sewerage—has been adopted at Pullman, Illinois, and Atlantic City, New Jersey,—in both places, it is stated, with great satisfaction. At the insane asylum at Norristown, Pennsylvania, Colonel Waring (this journal, April 30, 1886) has recently completed a plan of drainage, with ultimate disposal of the sewage by irrigation, which seems to be complete in every particular and to answer all the demands of sanitary science. Colonel Waring, who has studied the subject more thoroughly perhaps than any other engineer or sanitarian in this country, has arrived at the conclusion that the system of sewage-disposal by intermittent surface-irrigation "answers every requirement of simplicity, safety, and decency."

CREMATION OF GARBAGE.

The disposal of refuse by burning has been advocated by many sanitarians. At the last meeting of the American Medical Association a good paper (not yet published) was read upon the subject by Dr. G. S. Franklin, of Ohio, and at the sanitary convention of the Pennsylvania State Board of Health a description was given of an apparatus designed to dispose of human excreta in this manner.* J. Zellweger† also publishes designs of a garbage-furnace, and points out the requisites for such an apparatus. According to the latter writer, the cremation of garbage consists of several distinct processes, classified as follows: (1) drying of the fresh charge, (2) destructive distillation of the dry matter, (3) burning of the remaining charcoal and coke, and (4) decomposition and oxidation of the organic vapors and gases produced in drying and charring the garbage.

"These several processes must be carried on separately, and in different parts of the furnace, so that the consumption of heat does not interfere with its production. It is essential, for the successful cremation of garbage, that the full calorific power of the fuel be developed and all the available heat be transferred to the fire-gases before these are allowed to mingle with the aqueous vapors and organic gases rising from the fresh charges in the furnace. The heat produced by the combustion of charcoal, coke, and the gases expelled by destructive distillation is then brought to act upon the gases mingled with and protected by steam to decompose them, and to cause their oxidation in the accompanying air."

The furnace designed by Mr. Zellweger seems well adapted for securing the results above stated at a reasonable cost.

The Health Committee of the Wheeling (West Virginia) Common Council has recommended the adoption of the system in that city. It is said that a furnace of sufficient capacity for the purpose could be constructed for two thousand and fifty dollars, but no estimates are given of the cost of running the same. Wheeling had a population in 1880 of 30,737.

PROPRIETARY AND PATENT MEDICINES AND THE PUBLIC HEALTH.

Dr. Frank Woodbury, in a paper read before the Pennsylvania State Sanitary Conference,‡ called forcible attention to the alarming frequency with which narcotics, stimulants, and other classes of medicines were consumed by the public without directions of a physician. In view of the absence of all effectual restrictions upon the sale of medicines in this country, he advocated the following conclusions:

1. The examination of all proprietary medicines by a government or State commission of experts, which shall have power to permit the sale of such as are harmless or especially likely to prove serviceable,

* Annals of Hygiene, August 1, 1886.
† Sanitary News, February 27, 1886.

‡ Annals of Hygiene, August, 1886.

and to prohibit the sale of all which are liable to do injury, and particularly those which are found to be worthless and frauds upon the public. Such a commission was appointed by the Japanese government several years ago, and has been found to be of great service in that country.

2. The instruction of the public to properly estimate drugs, and to regard every unknown medical agent as dangerous and endowed with capacity for harm. Let them endeavor to escape the caustic criticism of a Molière upon those who "pour medicine about which they know little, into bodies about which they know less, in order to cure disease about which they know nothing at all."

TYPHOID FEVER AND POLLUTION OF DRINKING-WATER.

Dr. Charles Smart, Surgeon U.S.A., read an excellent paper before the Pennsylvania Sanitary Conference upon "Wholesome Water for Cities and Towns" (this journal, June 26, 1886), in which statistics are given to show the influence of an impure water-supply upon the spread of typhoid fever. Thus, for the past ten years, the average annual mortality from typhoid fever for every 100,000 of population was 66.1 in Philadelphia, 52.5 in Baltimore, and 24.6 in New Orleans. The water-supply of Philadelphia is contaminated with sewage; that of Baltimore, generally pure, is partly drawn from pumps, which necessarily furnish exceedingly impure water; while that in New Orleans, being almost exclusively rain-water, collected in cisterns above ground, is little subject to sewage-pollution. The result is shown in the typhoid mortality, which is less than half of that of the sewered city of Philadelphia.

BRASS-FOUNDER'S AGUE.

A graphic account of the group of symptoms known under the above name is given by Hirt, in his work on the Hygiene of Occupations. This author had two attacks himself, and is therefore competent to describe the symptoms, which he does as follows. "A few hours after attending the process of brass-casting, one notices a peculiar, uncomfortable sensation over the whole body. More or less severe pains in the back and general lassitude cause a discontinuance of the ordinary occupation. While the pains appear now here, now there, and are extremely annoying, no changes in the pulse or respiration are noticeable. In a short time, however, usually after the patient has taken to the bed, chilliness comes on, which soon increases to a decided rigor, lasting fifteen minutes or longer. In the course of an hour or less the pulse now reaches a rapidity of 100–120 beats per minute. A tormenting cough, combined with a feeling of soreness in the chest, comes on. In consequence of the repeated acts of coughing, the increasing frontal headache produces extreme discomfort. Soon, however, usually after a few hours, the height of the attack is reached, free perspiration indicates the stage of defervescence, and during the gradual diminution of the symptoms the patient falls into a deep sleep, lasting several hours. On awaking, a slight headache and lassitude only remain as reminders of the attack."

Although it is said that about three-fourths of all the workmen in brass-foundries suffer at some time from this affection, reports of cases are rare. This will give point to one related by Dr. Suckling.* The man worked directly over the casting-shop, and whenever any casting was done he had an attack, the symptoms corresponding pretty nearly with those above quoted from Hirt. Dr. Suckling found benefit from the administration of iodide of potassium.

It is uncertain whether the symptoms are due to the fumes of the copper or of the zinc used in making the alloy. Perhaps both are partly responsible.

PROPHYLAXIS AGAINST DISEASE IN FACTORY-LABORERS.

At the meeting of the American Climatological Association held in Philadelphia, May 10 and 11, 1886, Dr. J. H. Musser made some practical suggestions looking to the prevention of that state of the system which often leads to phthisis. He believes, no doubt justly, that ill health in mill-operatives is often due to lack of sufficient food. He stated that a large cotton-manufacturing company, the Willimantic, had introduced an excellent plan to preserve the health of their operatives, and urged that all the members of the Association should endeavor to secure its general adoption by factory-owners. The plan consists in supplying the operatives twice

* British Medical Journal, March 27, 1886.

daily with good, easily-digested food ; the boys receive milk, and the women bouillon, by which is probably meant a soup or broth, and not beef-tea, for the latter has little food-value.

SANITARY INSPECTION OF SCHOOLS.

In Hungary the following regulations governing the sanitary administration of schools have recently been established :

Every middle-class school is to have a medical officer, who will receive an annual salary of two hundred florins in schools where a complete course of instruction is given, and one hundred florins in other schools. He must examine all the pupils at the commencement of each scholastic year, and keep a constant watch over their health, and must give special attention to the prevention or eradication of infectious diseases. He will also give advice during gymnastic exercises. He will also keep watch over the instruction in general, and if he observe any deleterious influence in operation, with regard either to the whole school or to individual pupils, he will bring the same to the notice of the director of the school. In the upper schools he will give instructions in hygiene for two hours each week to those pupils of the higher classes who may desire to receive it, the subject being treated in an easy and popular manner.

In Paris, also, regulations governing the sanitary administration of schools have been adopted. In the girls' schools a young woman with a medical education has been appointed a sanitary inspector. Her duties are to see that the girls are not overworked, and that they perform their tasks under the best sanitary conditions possible. This is a long step in advance. Its adoption by school authorities in this country will mark the beginning of a new era in public hygiene.

A HYGIENIC SCHOOL-DESK.

Dr. Priestley Smith* states that a hygienic school-desk must have the following requirements :

"1. The seat must be of such height as will allow the scholar's feet to rest flat upon the floor or foot-board, and broad enough to support the greater part of the thigh.

"2. The seat must have a back placed at such height as to fit the hollow of the back below the shoulder-blades and support the body in a vertical position.

"3. The near edge of the desk must be just so high above the seat that when the scholar sits square and upright, with elbows to the sides, the hand and forearm may rest upon the desk without pushing up the shoulder.

"4. As used in writing, the desk must have a slope of 10°–15° (about 1 in 5). As used in reading, it must support the book at an angle of about 45°, and at a distance of at least 12 inches from the eyes : 16 inches is better (30–40 cm.).

"5. As used in writing, the edge of the desk must overhang the edge of the seat by an inch or two, in order that the scholar shall not need to stoop forward, and that the support to the back may be maintained.

"6. Either the desk or the seat, or some part thereof, must be movable at pleasure, so that although the desk usually overhangs the seat, the scholar may be able at any time to stand upright in his place.

"7. The desks and seats must be of various sizes, in order that the foregoing conditions may hold good for scholars of various ages."

[The reporter, in his "Text-Book on Hygiene" (Baltimore, 1885, p. 157), had already distinctly formulated these requirements. But sanitary preaching will have little effect upon matters of school hygiene until sanitarians become members of school-boards, and sanitary inspectors in fact, and not in name only, are a recognized part of the school administration.]

* Ophthalmic Review, June, 1886.

TRANSLATIONS.

INDIRECT INNERVATION OF THE SKIN.—At a recent meeting of the Academy of Sciences, M. Vaulair, in a note on the indirect innervation of the skin, stated that in numerous instances it had been observed that sensibility remained after some of the principal nerves had been cut. In some instances sensibility of the peripheral nerve-end remained intact, though totally severed from its central extremity. MM. Arloing and Tripier have demonstrated that recurrence, added to the further fact of peripheral diffusion of the nerve-fibres, explains the apparent paradox of the existence of sensibility in the peripheral nerve-end after section, and, therefore,

cutaneous sensibility. These hypotheses, based on the excellent scientific researches of MM. Arloing and Tripier, have been accepted by all physiologists. But these investigators, believing in an intimate relation between these two phenomena, have neglected to define the part played by recurrence, also that of the collateral diffusion of the fibres, and have likewise passed unnoticed the return of sensibility after its preliminary suppression, occurring independently of nerve-regeneration.

These special points M. Vaulair has by experimental research striven to elucidate, and concludes from his researches that recurrence and collateral diffusion are two thoroughly independent phenomena. The latter is by far the most important, and alone assures cutaneous sensibility. After severing the nerves, exchange of nerve-force among the peripheral nerves occurs among branches of the same nerve; also among nerves belonging to the same plexus. The collateral fibres travel into the deep tissues of the limbs, issue from the surface of the aponeuroses, and separately penetrate into the skin. Suspension of sensibility does not result from paralysis of the peripheral end, but from an inhibitory action proceeding from the spot presenting lesion and gaining the centre of the fibres attacked; thence it spreads to the neighboring nerve-centres. This influence is gradually exhausted, and thus sensibility gradually returns.

Chemical Characters of Urethan.—At a recent meeting of the Academy of Sciences, M. Berthelot presented a note by M. G. Jacquemin on urethan and its analysis. If mercuric chloride be first added to a solution of urethan, and then potash, a white precipitate is deposited. If this substance be heated with urethan in excess, it dissolves and is precipitated while cooling. With an excess of potash it becomes yellow, and is mercuric oxide, perfectly insoluble in water. This mercuric oxide, precipitated, dissolves under the influence of slight heat when passed into urethan; on cooling, it leaves a white precipitate.

M. Jacquemin states that salts of mercury at one and a half per cent. can be again precipitated. Weaker solutions—.00005 gramme of urethan to every cubic centimetre of solution—are treated with potash and mercuric chloride added drop by drop. A yellow precipitate forms, then dissolves as long as urethan is present, but it is afterwards again precipitated. This reagent is useful in a volumetric analysis. Mercuric nitrate and mercuric acetate in the presence of urethan behave towards potash like chloride. Both these mercury salts precipitate urea, but precipitate urethan only in the presence of potash.

M. Jacquemin utilizes his investigations to detect urethan in urine. Normal urine, even when considerably diluted with water, treated with this reagent gives a white precipitate, which blackens with ebullition. Therefore urethan present in urine must be eliminated. The investigator uses ether. The deposit of the evaporation of the ether is dissolved in a little water and treated according to the method described above.

The Physiological Function of Pulmonary Tissue in regard to Carbonic-Acid Exhalation.—The tension of the carbonic acid in the air contained in the lungs is considerable. Wolftberg and Nussbaum have shown in their works that the tension of carbonic acid in arterial blood is almost the same as that of this gas liberated in the pulmonary alveolæ. Pulmonary exhalation of carbonic acid is submitted to unfavorable physical condition. M. Garnier, at a recent meeting of the Academy of Sciences, described his researches made in order to ascertain if a chemical action does not facilitate the liberation of carbonic acid when in contact with the air contained in the pulmonary alveolæ. Chemical analysis did not succeed in extracting a definite acid, but pulmonary tissue taken from different animals (oxen, sheep), cut up in cold water, furnishes a fluid which, when mixed with blood which is alkaline, remains slightly though distinctly acid, and this acidity is not due to carbonic acid. Ultramarine injected into the lungs of a rabbit becomes discolored after it has been allowed to remain there twenty-six days. This discoloration could not take place in the absence of a strong acid: taurine and carbonic acid are both inert.

M. Garnier believes that there exists in the pulmonary tissue a substance which acts as an acid. This acid has evidently an action on the carbonic combinations of venous blood which leads to the liberation of carbonic acid.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, OCTOBER 2, 1886.

EDITORIAL.

THE NEW VOLUME.

THE present is the first number of the Seventeenth Volume of the *Philadelphia Medical Times*. During the coming year, arrangements have been made for the publication of original articles by well-known writers, the clinical department will have special consideration, while reports of medical progress and notes from medical centres of the world will continue to occupy a prominent position in these pages. We invite our readers to add their individual contributions of rare cases in practice, of interesting observations on the post-mortem table, and of the action of old or new remedies; and, to further this end, medical questions and replies and letters from the profession will find a welcome place in the *Times*. Let each subscriber put himself down for at least one contribution to its pages during the year. For all original articles the publishers will furnish reprints in a neat octavo form, with cover, or will pay their equivalent in money if preferred. Correspondence containing early medical news will be especially acceptable.

THE THERAPEUTIC ACTION OF SPARTEINE SULPHATE.

ACCORDING to MM. Laborde and Légris,* sparteine, the active principle of the broom-plant (*Cytisus Scoparius* Link), has valuable properties as a cardiac tonic, since it renders the heart-beats stronger and more protracted: its action is considered essentially *dynamogenic*. That this influence is central in origin, the absence of alteration in vascular pressure or in peripheral or vaso-motor effects constitutes one of the important proofs; which is further corroborated by other phenomena, among them those belonging to convulsions and asphyxia, showing its depressing influence upon the respiratory centres. In frogs, for some time after actual death, even when the animal begins to dry up, the heart still beats rhythmically, showing that sparteine gives an impetus to the contraction and increases the length of the beats. MM. Laborde and Légris observed similar phenomena in new-born puppies. No other influence proceeding from the nervous system can be supposed to act in this case than that of the intracardial ganglia. Any other hypothesis would necessitate the concomitant and the direct contraction of the muscular fibres of the heart. The myographic researches made by these investigators have not at present furnished results that warrant decided conclusions.

The therapeutic properties of sparteine, as formulated by M. Sée in a recent paper to the Académie des Sciences, agree with the physiological effects: it revives the heart-beats and the pulse. In this respect it equals digitalis in action and resembles convallamarin. As a tonic it is more active than these, as its effects have been found to be more prompt and more lasting. It also regulates the rhythm in cardiac disturbance, and in this effect it is said to be superior to any other of the so-called heart-tonics. In serious atonic conditions the heart-beats are quickened: in this respect sparteine resembles belladonna. The favorable modification resulting from the action of sparteine in clinical observations usually occurs in one hour, or in some cases a few hours, after its administration, and continues two or three days. During this time the general strength is increased and respiration is rendered easier. The urinary function appears not to have

* In an article entitled "La Méthode expérimentale appliquée à l'Etude des Substances médicamenteuses," published in the *Archives de Physiologie Normale et Pathologique* of May, 1886.

been influenced by such small doses as those hitherto used.

The more recent researches made by MM. Laborde and Légris lead them to endorse M. Sée's statements, and they further state that the action of sparteine is quicker and more rapid than M. Sée observed it to be. The daily dose of sulphate of sparteine varies from five to twenty-five centigrammes.

Sparteine may with advantage be administered under the following conditions. When the action of the heart is weak, either from alteration of tissue or because it cannot overcome obstacles offered to the circulatory system. When the pulse is irregular, intermittent, arhythmic, it is impossible to arrive at perfect regularity, except in those cases where the absence of rhythm and intermittence are the result of advanced cardiac degeneration or an atheromatous condition of the coronary arteries. The prompt action of sparteine renders it invaluable in heart-disturbance requiring immediate treatment. In instances of asystole it has been considered preferable to any other drug. In all cases of weak heart, with asthenia, sulphate of sparteine may be used whether there is lesion or not; since MM. Laborde and Légris declare that they do not know any conditions that should be regarded as contra-indications to the use of sparteine. It is not a cumulative substance in small doses, and apparently does not exercise a deleterious effect either on the digestive organs or on the cerebro-spinal system. It can be used for some time without an interruption being necessary. When digitalis is given, sparteine sulphate may be used as a substitute with advantage in the necessary intervals of administering the remedy. In cardiac affections accompanied by dropsy an infusion of broom-flowers added to sparteine sulphate has a beneficial effect, by increasing its effects as a diuretic. In cardiac dyspnœa the iodide of potassium may often be used with advantage in addition to sparteine, and pyridine inhalations administered.

MULTIPLE NEURITIS.

UNTIL within a very few years the tendency to refer a large number of obscure trophic, sensory, and motor troubles to lesions of the cord, and especially to lesions of the anterior cornua, was very general. Hence these affections came to be regarded as symptomatic of various forms of poliomyelitis anterior. Just now the pendulum is swinging the other way, and there is a growing—perhaps already an exaggerated—disposition to ascribe those manifestations not to central but to peripheral causes. Disorders, such as we refer to now, suggest, in place of some spinal affection, more or less generalized alterations in the nerves themselves. Hence the frequent recurrence of such terms as multiple neuritis, polyneuritis, and peripheral neuritis in the observations of the neuropathologists.

Many of the cases are characterized by symptoms by no means restricted to a limited region of the peripheral nervous distribution, but, as Lucas-Championnière insists upon in a recent article (*Journal de Médecine*, July, 1886), they were characterized by phenomena sufficiently extensive to realize the type of paraplegias, partial paralysis of all four limbs, or even a general paralysis to such a degree that the differential diagnosis from paralyses of central origin is extremely difficult.

Among the chronic forms of multiple neuritis, one of the more interesting is pseudo-tabes. But the acute forms are of not inferior interest, especially as their study has been rewarded by fresh knowledge in the direction of causation. The causes of these forms of neuritis at present arrange themselves into three principal groups: 1, intense or prolonged cold, especially under circumstances of great fatigue; 2, toxic, among which alcohol holds chief place, although arsenic and

lead are important; and, 3, infection. The third etiological group includes such acute and chronic infective diseases as relapsing fever, variola, diphtheria, rheumatism (which seems to have especially close relations with polyneuritis), syphilis, and tuberculosis. To these we would add enteric fever.

The symptoms are, however, but little modified by special causes.

The cases are acute, subacute, and chronic. The palsy is usually ascending, in many cases first attacking the lower extremities symmetrically, then the upper extremities, and finally the trunk. It may, on the other hand, remain limited, or chiefly affect one side. Muscular atrophy more or less marked is an almost constant symptom. The reaction of degeneration is present in varying degrees. Among the manifestations of trophic changes are œdema of the extremities, dryness and roughness of the skin, pigmentation and erythematous patches, eczema, abundant sweating. Anæsthesia is less common than hyperæsthesia. Paræsthesia is constant, often manifesting itself as pain.

The march of the affection is irregular; its terminations are equally inconstant. Sudden death, equally sudden restoration to health, gradual improvement, and a chronic, little-varying condition, with fair general health, have been noted.

Alcoholic paralysis, first described by Jackson, of Boston, in 1822, later by Huss, Lancereaux, Leudet, and Wilks, and very recently fully studied by Broadbent, Déjérine, Hun, Dreschfeld, and others, is the best-known form of peripheral neuritis* of toxic origin.

Like other alcoholic affections, alcoholic paralysis does not differ in its symptoms from similar conditions due to other causes, and hence cannot be looked upon as a specific disease. Full recovery usually follows the discontinuance of alcohol.

* For a fuller summary of the present knowledge of alcoholic paralysis, consult Dr. J. C. Wilson's article "On Alcoholism" in vol. v. of Pepper's "System of Medicine."

THE DISTRICT NURSE SOCIETY. — In the last issue of the *Times* a short notice of a very useful charity was given, to which we again direct attention. The organization has been formed for the purpose of supplying experienced attendants for the poor. The nurses sent out by the Society work in both the third and the fourth district, and are therefore available for cases between the Schuylkill and Delaware Rivers and South and Vine Streets. The office is at 1203 Race Street, where all needed information will be furnished upon application.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

MEDICAL and Surgical Congresses.— Europe has been quite prolific of this sort of meeting this summer. Notices of that at Brighton and those in Germany you already have from your other correspondents, so that we can remain local and give only the most important points of the French Congresses. "L'Association française pour l'Avancement des Sciences" held its fifteenth session this year at Nancy. Its newer therapeutical ideas will occupy most of our letter with what was, perhaps, the most interesting part of the proceedings. M. Paul Landowski, of Paris, spoke of local treatment in membranous dysmenorrhœa. He had found, as the rule, that this affection attacked women who were under the influence of a diathetic state of general debility which may or may not be cachectic; but that this condition was not at all absolute, because, oftener than is usually thought, young and strong women, and girls full of health, are found to be suffering from this complaint without any apparent cause. In these cases the disease will remain localized for a long time before extending to the whole organism and causing a debilitated and anæmic state. Where this form of exfoliative dysmenorrhœa is the result of a general cachectic state, the treatment must, of course, be directed to the constitution; but in all cases it is advantageous to adopt a local treatment. Indeed, it becomes the most important part of the therapeutical application in those cases where the affection is primitive and localized. The author therefore proposes the local application of the electrocautery to the endometric surface, and lays down the following rules to make the treatment successful. First, It is of great impor-

tance that the operation should not be performed until the uterine orifices are fully dilated. If they are naturally large and easily dilatable, one application of prepared sponge will be sufficient; but if they are rigid, two must be made,—one the evening before the operation, and the second the next morning. The moment the sponge is taken out, while the cavity is wide open, is the time to introduce the electro-cautery, which should be rapidly heated to a dull red, and passed lightly all over the endometric surface. With careful touch, and these precautions, the author claimed that there is not the slightest danger to be apprehended. After the operation the patient must remain in bed for a week. Care must be taken to make the application five or six days *after* the cessation of the monthly period.

M. Netter, of Nancy, proposes to treat whooping-cough with the "Oxymel scillitique," made according to the French "Codex," and given pure. Soubeiran's method of making the oxymel of squill is the one followed here: dissolve six parts of the alcoholic extract of squill in fifty parts of vinegar, filter, and combine *secundum artem* with two hundred parts of honey. The vinegar seems to destroy the irritant action as well as the emetic property of the squill, and increases the expectorant effect. It is recommended to be administered pure every ten minutes for one hour daily. Dr. Netter first of all remarked that when it was given in bronchitis (as for the last twelve years had been his habit during the period of sibilant râles) it produced an abundant bronchial secretion, which led him to try this form of medication in whooping-cough. Professors Hecht, Rémy, and Schmitt, of Nancy, besides the author, have all tried the method proposed, with great success. In two or three days, or even less, the cough becomes easy (what the French call "grasse"), and the mucus comes easily into the mouth. From this time the cure depends on the age of the child, according as it is able to spit out the mucus or is compelled to swallow it. In strong boys the most violent whooping-cough has been seen to improve in two days after the administration of the medicine. In weaker children, or those under three years of age, it does not relieve quite so well, but, with the use of an emetic, the cure is accomplished almost as soon. In babies still at the breast, from twenty to forty drops of the medicine are enough, and it usually is found to answer very well. Non-success will be found to be owing to the bad quality of the preparation, or to its irregular administration. All old or stale preparations should be rejected. The following system of giving the remedy was found to be the best. At half-past three P.M. give the child his lunch, then between five and six o'clock give him a teaspoonful of the oxymel *every ten minutes during this hour.* Give in all four to five at three years of age, six to seven over that age, and seven to eight teaspoonfuls in adults. Then let them have their dinner at seven P.M. Continue each day in this way, during *this one hour only*, until the coughing-fits are over. M. Rémy, of Nancy, confirmed what his colleague had stated in regard to this treatment, and said he had seen several cases of cures by this method, and that the amelioration, in his experience, had been rapidly brought about, —mostly within three days.

Dr. Henri Huchard, physician to the Bichât Hospital, Paris, presented his observations of cures of angina pectoris by means of the iodides, and added four new cases of great improvement, even cure, in arterial cardiopathic cases taken at their commencement. Arterial sclerosis he looks upon as a general disease which acts on the heart, kidney, and brain, and the only proper medication is that which has its action on the arteries,—*i.e.*, the iodides. One of the considerations which the doctor dwelt upon at length was that it was an essential condition of success to prolong the action of the remedy during a period of from one to three years continuously, at a daily dose of one to three grammes. Much importance was also laid by the speaker and those agreeing with him (such as Professor Bouchard, of Paris, Dr. Liégeois, and others) on the fact that the iodide of potassium is a very toxic salt, while the iodide of sodium is forty-two times less so: therefore this last salt is strongly recommended to be used, in these cases at least.

M. de Pezzer spoke of the use of naphthaline in the treatment of genito-urinary diseases. It had been used by Rossbach, in 1884, in doses of one and a half grammes to prevent intestinal putrefaction, and he had found in urinary troubles that the results are just as satisfactory. When the urine was fetid and there was difficulty in micturition, the dose used was one gramme divided into twenty-five centigramme pills; but the eructations were found to be very disagreeable with this mode of preparation, and capsules of gluten were then substituted with great benefit. Oil of turpentine had been tried, but it failed in several cases which subsequently improved under naphthaline. In all the cases where the urine was cloudy, purulent, alkaline, or full of microbes, it became limpid, neutral, or acid, after the remedy was given, while the quantity of pus, if any had been present, decidedly diminished or entirely disappeared. In cystitis or pyelo-nephritis, and in the many cases of old urinary diseases that so often occupy the beds in surgical wards for years, great improvement was found, and entirely without any digestive troubles; nor does it produce any increase in the acts of urination. Administration by the mouth was found to be preferable to injections. Professor Bouchard said, in referring to this matter, that, finding the dose of

one and a half grammes was not enough, he had given up to five grammes, in order to obtain pure urine, free from pus, and always found the medicament to be quite inoffensive. He constantly gave it as an intestinal antiseptic, without any accidents. It is but little absorbed into the system, but is eliminated as a naphtil-sulphate of sodium, which is antiseptic and not at all toxic. In the treatment of cases of cystitis, he thought that injections of the naphtil-sulphate of soda might be substituted for the administration of the naphthaline by the mouth.

To continue therapeutical subjects, Drs. Pauly and Mondot, of Oran, in Algeria, publish a method of treatment in diphtheria which they claim has met with great success. Notwithstanding the fact that Algeria has a fine healthy climate, as a rule (something like Florida), diphtheria is endemic in several points, of which Oran is one. After detailing the fact of their want of success with all the various sprays and inhalations which had been recommended, the doctors thought that they only seemed to carry off little by little all the oxygen of the air of the sick-rooms, which were mostly heated to about 20° C. also: so at first they advised airing and cooling the chambers, and even changing the patients from one room to another during the day. Finding that this seemed to do good, they went further in the oxygenation of their clients, and sent them out of doors, even to the environs, and preferably where there were strong currents of pure air. (It must be remembered that the climate is very fine in Oran.) Their treatment may be formulated in brief thus:

1. Saturate the patients with plenty of pure fresh air, constantly renewed, by walking, riding, or otherwise.

2. Give sulphate of quinine, in doses of two or three decigrammes, twice or thrice a day, in coffee.

3. Paint the throat with such lotions as this:

℞ Sodii boratis, 5 grammes;
Acid. salicylic., 2 grammes;
Glycerin. (puræ), 50 grammes;
Aquæ destillatæ, 100 grammes. M.

S.—Apply four times a day upon a piece of lint or absorbent cotton.

4. Alimentation to be very simple. Milk, soups, soft-boiled eggs, etc., according to the appetite of the patient.

5. As the stomach and the whole digestive tract is mostly out of order, and as it will receive an accumulation of false membranes, drawn down by the movement of deglutition, use as an intestinal disinfectant sulpho-carbonated water.

Messrs. A. Cahn and E. Heppe, two assistants in Kussmaul's clinic in Strasbourg, have been successful in finding a new antipyretic, antifébrine. This body is indifferent, being neither an acid nor a base: its chemical composition differs from all the other antipyretics. It is a white powder, crystallizable, without odor, slightly bitter in taste, almost insoluble in cold water, but dissolves in all alcoholic liquids. Given by the mouth, it does not cause any disturbance of the digestive functions or any unpleasant symptoms. The dose given is twenty-five centigrammes, in cachets, or in wine: not more than two grammes has been given in the twenty-four hours. It is found to be four times more active than antipyrine, so that the same effect is produced with twenty-five centigrammes of it as with one gramme of antipyrine. The antipyretic effect commences within an hour after its administration, and attains its maximum in about four hours, when it persists, according to the dose given, from three to ten hours. After every dose the febrile temperature descends to normal or below it, and a considerable diminution is noticed in the frequency of the pulse. During this period the appetite often comes back, with an intense thirst and an augmentation of the urinary secretion. Not one of twenty-four patients who took it was affected with unpleasant symptoms; several among them, however, presented a certain degree of cyanosis of the face and extremities, which did not persist long.

Obstacles to Fecundation.—One of your late editorials on "The Causes of Female Sterility" induces us to try and present a résumé of Professor Pajot's lectures on "Des obstacles à la fécondation dans l'espèce humaine." The eminent veteran uses the plainest kind of language, as is his wont, but the importance of the subject, with the new and valuable ideas of treatment which he gives, will justify a modified version of his lectures, even in the cruder English, which does not lend itself so well to explain delicate questions as does the original French. He says, in substance, "Gentlemen, allow me in these last days of this session to study with you an important subject that is so often put on one side by medical men, to the great profit of idiotic superstitions and those industrials of both sexes who ornament the pages of newspapers with their sure cures of sterility, which I wish to speak about. Among the obstacles to fecundation in the human race the first rank must be given to a catarrhal state of the uterus, as it is the most common of all. Of twenty couples who consult you because the wife is sterile, ten or twelve of the women will have a catarrhal affection, more or less pronounced; some having only a small cork of mucus in the os uteri, which, however, closes it effectually and is very difficult to extract. Another obstacle is the narrowness of the external orifice of the neck: it is not so well known as it should be that in these cases there is usually a peculiarity of form, being cone-like in shape, with a very small orifice: we call it a 'top'-shaped os.

"The third most frequent obstacle is the

one most talked of by charlatans and ignorant medical men,—I mean uterine deviations. You know these all by name at least. For our present purpose we will make two great classes which differ as obstacles to fecundation: they are versions and flexions. Versions are of four kinds; flexions ditto, which I shall not dwell upon. The normal uterus presents a certain degree of anteversion nearly in the axis of the superior strait. If this is exaggerated, there is an anteversion; the contrary state is retroversion, and the lateral incline is lateroversion. Pregnancy brings a right lateroversion, the neck being on the left side. Flexions are much the same in name; but it is curious that the versions are greater obstacles than the flexions. A few years ago a lady came to me who had consulted Krassowsky in St. Petersburg, Scanzoni at Wurzburg, Braun at Vienna, and Bennett in England, who all told her that the position of her organs was such that she could not have any children. Scanzoni alone had said that it was not impossible. Upon examination I found a retroflexion so excessive that the base of the uterus was lower than the neck. I could put my finger in the angle that formed the flexion. I asked if the menstrual flow was regular. She answered yes. Reasoning that if it could come out, something might go in, I concluded that it was not impossible that she could become pregnant. Some four months afterwards I was suddenly called to this patient, who told me that she had not seen her courses since, and that on ascending the stairway that evening she had felt something give way inside, and went to bed in haste. I examined, and found the uterus nearly in its normal situation, and the result proved that she was pregnant. This case proves how careful we must be in such examinations. Suppose that I had used a hysterometer? I observed to myself, Here is a good chance to cure this lady of her retroflexion. The uterus is upright; keep it so. So I kept her in bed nearly three months after her confinement, and after the return of the courses ordered injections of tannin, etc. But, alas! she returned to me in a year with a retroflexion as bad as ever, which did not prevent her, however, from having three other babies. This shows the uselessness of rings and 'sachets,' etc., that are so much introduced to cure such people. That certain kinds of apparatus may give comfort is possible, but as to real cures they are all useless. I don't speak at present of prolapsus. We don't cure these deviations, because they are not maladies: they are infirmities. These women are no more ill than a person who is left-handed, unless there is also a catarrhal state, or a congestion, or an ulceration. Many women have a deviation without knowing it. It certainly very often constitutes an obstacle to fecundation,—one reason being that the *cul-de-sacs* formed make a false route for the male organ and complicate the difficulty of fecundation.

"Acidity of the vaginal mucus seems also to be a cause of the rapid death of spermatozoa. Finally, when I first began to teach, like those who preceded me, I said that, out of a hundred, ninety-nine times sterility was the woman's fault, and only one the man's. But during these last twenty-five years I have arrived at a very different result, which will astonish you as well as it did me. More than ten years ago I found the proportion of husbands who were the obstacles to fecundation rise to seven in eighty cases. I have seen in late years some four hundred cases in which I examined the seminal fluid, and I can now say that of one hundred cases, after two to twelve years of marriage, there were nearly twenty in which the husbands were at fault and the cause of the sterility; and I think when some thousands of cases will be collected that twenty-five per cent. will be reached. Don't fancy that it was alone in feeble men that the difficulty resided; not at all. Strange as it may sound, there are a large number of strong men who have no spermatozoa or have them in an imperfect state; and yet they fulfil the conjugal function perfectly well. One of my latest patients was a colossal man, with a head like a lion, who brought his wife to me complaining that the little woman was no use as to conception. Upon examination, I found her organs and functions in perfect order; and, taking the husband aside, I explained to him what I wanted. Under the microscope I found that there was not a single spermatozoon in it; not one. On questioning him, I found that his desires were ample, and in regard to previous ill health he could only recall a slight orchitis at seventeen years of age. Another patient was a short man who did not present anything particular in his appearance except broad shoulders. His wife was a tall, handsome blonde. They had the same complaint: no children. Examination of wife showed vagina and neck of uterus full of mucus. Examination of husband's spermatic fluid gave a result of millions of spermatozoa, thus reminding me of the extravagant boasting of the Gascon and the Marseillais. The first said that in his rivers there were so many fish that all you had to do was to dip up a bucket of water, and you could get all you wanted. The second replied that in the river in his country it was all fish and no water at all. Between these two extremes there are all sorts of cases. But it is not sufficient to have a certain number of spermatozoa. Professor Duplay has shown that they exist in quite old men, but they are smaller, and not active; and I contend that fecundation is not possible with such spermatozoa. In making an examination for size, always use the *same power of microscope at first.* This is important, so that you may be able to judge.

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The smaller deformed ones oscillate some, but they are not half as long nor as large as they should be. There are exceptions to every rule, but usually they cannot fecundate. It is your duty to see to this matter. In those who have none at all, cure is almost hopeless; but those who still have some may be improved by treatment. It is possible that on the female side likewise some ova cannot be fecundated; but of this we know very little. But let me go on to treatment. For the catarrhal states, use emollient injections for the first few days, to allay any congestion, and then during the intermenstrual period—that is to say, not less than ten days nor more than fifteen after cessation of the menses—practise internal cauterization of the uterus, both the cavity of the neck and the body. Use for this purpose my porte-caustic mounted on very flexible whalebone, that cannot perforate the uterus. Professor Richet uses a solid metal one; but in his hands any instrument will do: don't fancy it would do so well in yours. Place powdered nitrate of silver in the little cup, close it with some unguent, and penetrate slowly into the uterus, empty the cup, and the operation is over. If you still fear the porte-caustic, use these little whalebone sticks, which are mounted solidly with a little cotton, carefully wipe out the mucus to get at the real surface, wet the cotton with a little water, and rub it in powdered nitrate of silver, forming a sort of paste, which you can paint over the surface easily. Keep the woman in bed three days or more, and continue emollient injections, and follow them with astringent ones. As to the narrow conically-necked uterus, the best treatment is *dilatation*. I do not believe in Sims's American divider, composed of two blades that are introduced, opened, and drawn towards you, as I have seen fatal results in two cases from its use. No; dilate gradually and largely the *external* orifice only; for, as the other gives passage to the menstrual flux, it will allow the spermatozoa to pass.

"I wish now to teach you some therapeutical measures that I think have never been mentioned by any one. When you are advising a woman who has a deviation, see the husband apart. If she has an anteversion, tell her to prepare for the sexual act by not urinating for five or six hours beforehand, if she wishes to have children. If it is a retroversion, advise as follows. After the monthly period she must eat plenty of eggs and rice, and take a small pill every evening for three or four days (the pill is simply two and a half centigrammes watery extract of opium). During these days she must resist defecation and perform the sexual act. This advice is based on anatomical and physiological facts, and will often succeed in removing these obstacles to fecundation. In one case the full bladder pushes the body of the uterus up, and in the second the full rectum corrects the deviation for the moment." To give further indications, the professor related the case of a patient who had a left lateroversion, making one of the false routes he talks of. Upon questioning the husband adroitly, he found that the conjugal act was performed in the usual classical manner,—dorsal decubitus, in fact,—and advised a change by placing the wife on her right side: conception followed, and the woman had eventually five other children.

With these different methods he also advises sterile people to have connection *only* about the menstrual period, a few days before and after, and never at other times. As to the husbands with no spermatozoa or with insufficient ones, he advises gymnastics, fencing, swimming, velocipedes, walking, etc., exercise of the inferior members, good living, and continence.

THOMAS LINN, M.D.

September 18, 1886.

BALTIMORE.

THE American Gynæcological Society had a successful meeting in this city during the past week. The attendance was fair, many of the papers valuable, and the discussions interesting. Some of the views expressed upon the removal of the uterine appendages seemed rather advanced to conservative outsiders, and appeared to strike some of the Fellows likewise. That a patient shall decide whether she will be desexualized may be sufficient to warrant metropolitan gynæcologists in removing the ovaries, but physicians generally should protest against such a monstrous doctrine.

The Fellows were entertained at dinner by the Baltimore Obstetrical and Gynæcological Society, and elaborate lunches were served at the residences of each of the Fellows belonging to this city. The visitors appeared to be well pleased with the hospitality shown them by the local profession.

To judge from the majority of those in attendance, physical beauty is not a necessary attribute of the successful gynæcologist.

At the meeting of the Medical and Surgical Society last Thursday, an interesting case of symmetrical gangrene of the toes was exhibited by Dr. Shertzer. The patient was a well-nourished man, 55 years of age. About a year ago the second toe of the left foot became affected. There was at first burning and redness, followed by superficial sloughing. The third toe of this foot and the second and third toes of the right foot were attacked later. In the discussion which followed the presentation of the case, the question was raised whether it was a case of Raynaud's disease, or one of ordinary gangrene consequent upon degenerative changes in the blood-vessels.

At the same meeting, Dr. T. B. Evans related two cases of aggravated dropsy with albuminous urine, which were promptly relieved by the administration of five grains each of iodide of potassium and chloride of ammonium. The exact cause of the dropsy was not ascertained.

Dr. Rohé also reported his experience with electrolysis in the removal of hairs, warts, moles, lupus, superficial epitheliomata, and other morbid growths of the skin. During the past year he had by this method successfully removed fifty-eight warts, fifty-six moles, some of them of considerable size and studded with coarse hairs, three vascular nævi, two fibroids about the size of a small cherry, two enlarged sebaceous follicles, one papilloma of the tongue, and one superficial cancer of the nose. He had also treated with encouraging success one case of lupus and three of acne rosacea by the same method. Dr. Rohé anticipates for electrolysis a large field of usefulness in the removal of neoplasms and infiltrations in the deeper tissues, as well as of the skin.

The medical schools will reopen for the winter session next Monday. The prospects are that the classes at the different schools will be about the same as last year.

The profession here has met a serious loss in the death of Dr. William M. Kemp, which occurred a few weeks ago. Dr. Kemp was one of the representative physicians of the last generation, and, when in his prime, wielded considerable influence in the community. For several years he had been in feeble health, and during the last twelve months had been confined to his bed. He was seventy-three years old at the time of his death.

G. H. R.

Baltimore, September 27, 1886.

PROCEEDINGS OF SOCIETIES.

THE AMERICAN GYNÆCOLOGICAL ASSOCIATION.

THE Eleventh Annual Meeting was held in the hall of the Johns Hopkins University, Baltimore, Maryland, September 21, 22, and 23. Morning and afternoon sessions were held each day.

Thaddeus A. Reamy, M.D., of Cincinnati, President of the Association, occupied the chair. The papers and discussions were almost exclusively upon questions relating to therapeutics and the problems of clinical gynæcology, and in consequence a large attendance of visitors was obtained. The following Fellows of the Association were present: Wm. H. Baker, Boston; Fordyce Barker, New York; Robert Battey, Rome, Georgia; B. B. Browne, Baltimore; Samuel C. Busey, Washington, D.C.; John Byrne, New York; James R. Chadwick, Boston; Thomas M. Drysdale, Philadelphia; Thomas Addis Emmet, New York; George J. Engelmann, St. Louis; Walter R. Gillette, New York; William Goodell, Philadelphia; William T. Howard, Baltimore; James B. Hunter, New York; A. Reeves Jackson, Chicago; Charles Jewett, Brooklyn; Joseph Taber Johnson, Washington; Chas. Carroll Lee, New York; Matthew D. Mann, Buffalo; William H. Parish, Philadelphia; Theophilus Parvin, Philadelphia; Thaddeus A. Reamy, Cincinnati; John C. Reeve, Dayton, Ohio; Wm. L. Richardson, Boston; John Scott, San Francisco; Alex. J. C. Skene, New York; R. Stansbury Sutton, Pittsburg; Ellwood Wilson, Philadelphia, and Henry P. C. Wilson, Baltimore.

First Day, Morning Session.—After the formal opening, with the calling of the roll, Dr. H. P. C. Wilson, on behalf of the resident Fellows, delivered a brief address of welcome.

The scientific work of the meeting was to have been inaugurated by Dr. Ellwood Wilson, of Philadelphia, but, as he had been called away unexpectedly, the President called for the reading of the next paper on the programme, by H. P. C. Wilson, of Baltimore, on

THE DIVISION OF THE CERVIX BACKWARD IN SOME OF THE FORMS OF ANTEFLEXION OF THE UTERUS WITH DYSMENORRHŒA AND STERILITY.

The want of judicious selection of cases, the unskilful performance of the operation, and the improper treatment after it, have caused a procedure which was endorsed by such men as Sims and Simpson to be barren of good results and prolific of bad in the hands of many practitioners. It has shared the fate of many valuable remedies and many new operations, and has fallen into undeserved neglect, once again proving that the abuse of a thing is no argument against its proper use.

The cases for which the lecturer especially recommended this operation were—

1. Those of anteflexion of the uterus with an elongated indurated cervix, where the body is bent upon the neck, or the neck upon the body, or where they are bent upon each other, thus forming a more or less acute angle at the interval.

2. Cases of not such acute flexion, but where the cervix is hyperplastic and indurated, as blue as a mulberry and as dense as cartilage.

3. Cases where there is a hard and unyielding band encircling and constricting the internal os, through which the probe passes with difficulty, and gives to the hand the sensation as if it were passing over rough and dense cartilage, while the finger of the other hand in the sulcus between the body and the neck, in front, gains the impression of

there being a cord strongly tied around the uterus at the point of union between body and neck.

The conditions described as in the third class are frequently found also in the first, and are occasionally present also in the second; and in typical cases of anteflexion of the uterus, where the knife should be used in preference to other remedies, all of the lesions above described are coexisting.

Nearly all such cases are sterile. The very rare exception proves this rule. In all these cases we find the Nabothian and utricular glands hypertrophied and indurated, so that the probe in passing from the external os along the cervical canal, and through the internal os into the cavity of the uterus, feels as if it were passing over the surface of an Osage orange instead of that of a soft and pliant mucous membrane.

With regard to the use of dilators or treatment by divulsion, he maintained that no dense, unyielding cervix should be forced open: if so, it will be done with far greater hazard than could accrue from a clean incision with a sharp knife and scissors. All accidents from cutting are the result of improper after-treatment. Accidents from forcible stretching are the immediate results from the force employed. Accidents from tents, plugs, and stems follow from septic poison, or long-continued irritation of an organ naturally rebellious to foreign bodies within its cavity. Of all these the tents are the most dangerous. We had better cut again and again than to use these harsh means, advocated by some, to dense and unyielding tissue, when the uterus is flexed and the internal os stenosed so that the smallest probe enters with difficulty, while dysmenorrhœa and sterility are present. He had perfectly cured several such cases, where they had previously borne children, by cutting the cervix backward and the internal os backward and forward. The bilateral incision of the cervix would not improve such a case: its second state would be worse than the first.

To overcome the diseased condition of the endometrium observed in these cases, it is not only necessary to relieve the stricture at the internal os, but also to straighten the organ, or at least to give a free and straight outlet from the uterine cavity. No pessary for anteflexion will relieve a condition such as this.

Before incising the cervix, any existing cellulitis should be removed by appropriate treatment, and after the operation the patient should be allowed to recover fully (which usually requires about a month), and then be allowed to go home and rest for another month without interference, before the subsequent treatment by dilatation or intra-uterine applications is attempted. The too early resort to after-treatment is the cause of many failures and bad results. The best application for the diseased endometrium is Churchill's tincture of iodine, to be applied to the interior of the uterus. The clinical records of several cases in which highly-successful results were obtained concluded the paper. He had performed the operation about five hundred times without losing a patient by death: in one pelvic cellulitis was set up, and she nearly died from injudicious after-treatment. Since then he interferes very little, and leaves them alone, almost absolutely, for two months after the operation.

Dr. T. A. EMMET, in response to an invitation from the chair, opened the discussion. Fifteen or twenty years ago he would have been willing to subscribe to everything that had been said by the reader of the paper. He had no doubt, speaking personally, that he had done as much harm as anybody by this operation, and the results that he had obtained had led him to change his mind with reference to it. In any discussion of this question we must separate sterility and dysmenorrhœa, which are due to different causes.

Mechanical dysmenorrhœa he regarded as a myth. Dysmenorrhœa depends upon faulty nutrition. Patients suffer with dysmenorrhœa when the cervical canal is entirely unobstructed. The cases for which the operation has been recommended may be divided into two classes:

1. Hypertrophic elongation of the neck of the cervix, in which sterility and dysmenorrhœa may both exist.

2. Cases of flexure of the uterus, which, according to his experience, were always due to some inflammation around the uterus, or affecting neighboring structures, and which brings it down. In these cases, if the patient submits to the operation, no good is done by it.

In the first class dysmenorrhœa precedes the appearance of the menstrual flow, and in the second it does not commence until after menstruation commences, and persists after its cessation. In congenital cases of elongation of the neck of the cervix, with induced flexion, he occasionally operates with good results. The second class may be accompanied by leucorrhœa and other disorders, but the real source of the trouble is outside the uterus. Painting the canal will therefore do very little good. He had known of twenty deaths from the operation defended by the speaker; but if the precaution be observed by all who perform the operation to remove all cellulitis as a preliminary, they will do good, but not by the operation. Even in the first class he rarely operates where the flexure is above the vaginal junction. After denuding the cervix, he showed how a covering of mucous membrane might be made for it by sliding it from the vagina by a plastic operation.

Dr. CHADWICK approved the remarks of the preceding speaker. He recognized only

one form of flexion, and would not divide it into flexion of body and of neck. Anteflexion is always congenital, and is usually due to lack of development of the uterus, and probably of the associated organs. Therefore, in cases of congenital flexion, he did not consider that he had the uterus alone to deal with. This is why we are so rarely successful in removing sterility and dysmenorrhœa by operation. It had succeeded in some cases in his hands when the external os had been very small. Operation should be only performed when the uterus is well developed in every other respect. When dysmenorrhœa is due to congenital defect of development, the fault may extend throughout the whole system.

Dr. BAKER congratulated the lecturer upon his success, and attributed it to his great care in the after-treatment. One thing which had not been alluded to was the danger of hemorrhage after the operation. He had seen such a case in the hands of Marion Sims, and had one of his own. The paper is valuable as a contribution to the surgical treatment of the disorders named, and helps to decide the question when it should be done and when it should not be done.

Dr. BARKER referred to the early history of the operation, and its frequent performance by Simpson, which he witnessed while in Edinburgh. He had brought back with him Simpson's instrument, which was the first one of the kind in this country. He was astonished at seeing Simpson operate in his office and let the patients go home after it; but in reply to his question he was told that the surgeon had never seen any severe hemorrhage from the operation. He learned, however, that Simpson lost two cases from hemorrhage during the same year, after he left. After his return he operated for sterility upon a patient with stenosis, but no flexion, who had been married fourteen years, and she subsequently became pregnant. He also showed the instrument to Dr. Sims, who, with his usual genius, invented many improvements upon it. After performing the operation many hundreds of times, he had ceased to operate years ago, being dissatisfied with the results. Until Dr. Emmet spoke, however, he had been unaware that there had been so many deaths from the operation.

Dr. SCOTT recommended that immediately after the operation a tampon of cotton tinctured with iodine solution be placed against the raw surface, in order to prevent suppuration, and the patient kept in a state of absolute rest in bed. He seldom performs the operation, and always under certain restrictions, and with the precaution named in order to avoid bad results.

Dr. HOWARD had been led to the conclusion that for cases of dysmenorrhœa and sterility no one form of treatment will answer. Dr. Sims complained to the last days of his life that surgeons did not discriminate. He prefers the bilateral incision where the uterus is symmetrical and where he operates merely to widen the canal; in other cases he uses the antero-posterior incision. His rule is to treat these cases first in accordance with the teachings of the therapeutic school of gynæcologists, at the head of which stands Dr. Barker, before resorting to surgical measures. The statement of Matthews Duncan, that the descriptions of mechanical dysmenorrhœa were "mere garrulity," he was not prepared to accept. With regard to the reported bad results from the operation, he asked what operation is not, at times, followed by bad results? We should not reject an operation because the results are not uniformly good, but should endeavor to learn its limitations. With our present improved methods we should obtain better results than ever before. After operating under antiseptic precautions, he introduces an ebony plug in the cervix with a light tampon, and leaves it undisturbed for four or five days, by which means the treatment is considerably shortened. He had had one case of death after divulsion.

Dr. H. P. C. WILSON had heard nothing in the discussion that would convince him that, in properly-selected cases, division of the cervix is not the best operation to perform. At the same time, he always warns patients that unless they can give the proper care to after-treatment the operation had better never be performed. When the hypertrophied neck of the uterus is bent almost parallel with the body, he maintained that the discharges were retained during the inter-menstrual period, and they become acrid and remain there month after month until labor-pains come on, which expel the accumulated secretions. When the uterus is bent upon itself, the canal is closed and obstruction exists. The only treatment is to open the canal by antero-posterior incisions, and make the canal pervious. Where the operation fails, it is due to want of proper after-treatment. In his present treatment he does not pass a probe until two weeks have elapsed since the operation.

With regard to Dr. Scott's suggestion, he believes that the best thing to use to prevent infection is a solution of carbolic acid, glycerin, and iron. He preferred that the cervix should bleed after the operation, and he then avoided possible septicæmia by plugging the vagina with the iron solution.

The object of the paper was to discuss the comparative value of division and divulsion of the cervix in the treatment of certain cases of anteversion with stenosis. To his own mind there was no comparison between the two: he believed that the danger to the patient from the former does not begin to compare with that from the latter.

ANOTHER MODIFICATION OF EMMET'S CERVIX OPERATION, WITH A CASE IN POINT,

was the title of a paper by R. STANSBURY SUTTON, M.D., of Pittsburg, Pennsylvania.

Some cases of lacerated cervix present peculiarities which make some modification of Emmet's operation a necessity. Last year the speaker reported one such expedient; this year he had devised another. In a patient presenting a torn cervix of almost cartilaginous density, and with the angles filled with hyperplastic tissue, he performed the following operation. Thrusting one blade of a pair of strong scissors into the cervical canal, the cervix was divided antero-posteriorly. With a double-edged knife the four surfaces were pared, except that a strip of mucous membrane was left on each side, so that when brought together these secured a patulous cervix.

Dr. EMMET thought the operation ingenious: its value could be tested only by experience. As a rule, where there is much old cystic degeneration and hypertrophy, he would do just as he would in a case of enlarged tonsils,—amputate; and he then would cover the stump with vaginal mucous membrane.

Dr. ENGELMANN believed that a piece of catgut would preserve the canal as well as the strip of mucous membrane. The modification did not seem to him to be very different from that proposed by the same speaker last year. Referring to Dr. Emmet's remarks, he called attention to the fact that in Germany what is known as amputation of the cervix is not exactly what we understand by it.

Dr. BAKER urged the importance of preliminary treatment and the preservation of mucous membrane. His own modification was the cutting of a "V"-shaped piece of mucous membrane and covering the wound with it, thus preventing rolling outward. He thought the operation of Dr. Sutton ingenious and likely to be of service.

Dr. ENGELMANN defined amputation as merely the removal of diseased tissue. When this operation of Dr. Sutton's is called for, the parts are very thoroughly diseased and degenerated, and there is no healthy mucous membrane left.

Dr. DUDLEY asked how the sutures were to be introduced.

Dr. CHADWICK. One of the speakers has referred to the fact that amputation of the cervix means something different in Germany from what it does here. He learned that at Schroeder's clinic it was about what we call Emmet's operation, the result being the same.

Dr. SUTTON. The operation was suggested by the character of the case. If in a given patient you can do what is aimed at in Schroeder's and Martin's operations, by removing a wedge-shaped portion of cervical tissue and doubling it in so as to turn inside what before was outside, that is good; but, as in the case reported, where you have either to cobble out a cervix or leave it alone, you cannot do the ordinary operation. He believed that the mucous membrane is not absolutely diseased, and that in the course of time it will become healthy mucous membrane. With regard to the introduction of the sutures, their position can be seen in the diagrams: no particular mechanical skill is required to introduce them so as to produce a good cervix.

A paper by ELLWOOD WILSON, M.D., on

THE TREATMENT OF LACERATIONS OF THE CERVIX UTERI,

was read by the Secretary.

In this communication the writer called attention to a new treatment of cases of laceration of the cervix, where the wound is recent. He had found nothing better in many cases of old laceration than Emmet's operation, which he valued highly, but thought that it was performed in some cases to which it was not suitable. Where after delivery laceration of the cervix exists, he recommended the use of irrigation with mercuric chloride solution on every second or third day, with antiseptic napkins, and cervical suppositories, or bacilli, containing iodoform. In the course of ten or twelve days after delivery another examination is made, and a solution (ʒj to ʒj) of nitrate of silver painted over the surface after it has been cleaned. This can be repeated every four or five days until it heals up. Several cases were reported in illustration.

Dr. BAKER approved the recommendation of the lecturer to defer the treatment until some days have elapsed after delivery. He strongly deprecated operative interference until the patient recovers from the exhaustion of confinement. In his own experience he had never seen a case which had required a second operation until within the last year, while those operated on at once very frequently require another operation.

Dr. EMMET believed that the only excuse for surgical interference immediately after labor is where hemorrhage is present with recent laceration. It is not in all cases in which it exists that a fissured cervix gives trouble. He thought that in all cases in which laceration of the cervix had given trouble it was owing to septic poisoning. He believed that many lacerations heal of themselves, and thought that with hot-water injections Dr. Wilson would have obtained just as good results as from the silver salt.

Dr. SCOTT reported one case of immediate operation, with a successful result.

Dr. BAKER reported the only primary operation of this kind which he had ever performed. In a case of forceps-delivery, of face-presentation, and the occiput backward (the only case of this character that he had ever seen born alive), the cervix and perineum were both torn, and he operated upon

both without delay. The patient made a good recovery; the stitches did not tear out, but the patient was very sick. It is significant that among forty-one cases of puerperal fever, which was epidemic in New York last spring, six had suffered a laceration of the cervix, which had been at once sewed up, and only one of these showed complete union.

Afternoon Session.—T. ADDIS EMMET, M.D., read a paper entitled

PELVIC INFLAMMATIONS. CELLULITIS *versus* PERITONITIS.

The dangers of limited inflammations of the peritoneum, the frequency, and the difficulties in the way of diagnosis, were dwelt upon in connection with disorders of the pelvic viscera. Cellulitis commonly accompanies peritonitis, but it is not of much importance unless associated with the presence of foreign microbic organisms. When the inflammation stops before producing pus and forming abscesses, the products may be completely absorbed. Where pus has formed, adhesive inflammation occurs, with subsequent cicatricial contraction.

In conclusion, he referred to the production of pus in the Fallopian tubes and ovaries as one of the results of gonorrhœa, and deprecated the frequency with which these organs are removed at the present day. He believed that if the true mortality of this operation were known it would appall the profession; although in New York it is performed with as good results as anywhere. It should be done only as a last resort, after therapeutic means have been faithfully employed without relief. If performed without proper restrictions, the good name of the profession is bound to suffer. He condemned laparotomy for diagnostic purposes, and the sacrifice of the whole of one or both ovaries when only a part is diseased.

Dr. BATTEY looked at the shield from the other side than that seen by the lecturer. His observation had shown him that pelvic inflammations commence very commonly in diseased ovaries. In a private letter to him, Dr. Emmet said that in his early life he had found a number of cases with ovaries in a state of cystic disease due to inflammation, in which he could find no symptoms during life to correspond with the decided condition of disease.

With reference to the frequency of abdominal operations at the present day, he was very much of the opinion of the lecturer, that they are done too frequently. A short time ago a general practitioner expressed great umbrage because he had returned a case which had been sent with a request for operation, because he did not regard it as a suitable one. It is not every case of organic disease of the ovary that requires this mutilation of its owner. He recalled a case of a young woman under his care in the Infirmary some years ago with large ovaries, which he advised her to have removed. She refused to permit the operation to be performed, and she afterwards recovered, married, and has borne two children, and is in good health. He had seen one or two other cases in which operation had been advised, but not performed, and the patients afterwards bore children. He was therefore not prepared to say that all cases of diseased ovaries should be operated upon.

Dr. BARKER requested the speaker to state succinctly the grounds which to him would justify the operation.

Dr. BATTEY replied that each case must be considered for itself. A poor woman in the mountains of Georgia, who is rendered a hopeless and helpless invalid by disease of the ovaries, and who by the removal of the ovaries will be restored to health and usefulness, would be a proper case for operation in Georgia; but at the same time if she lived in New York, with all the comforts and resources of a private hospital at command, the same kind of a case might be saved without an operation. In either case all ordinary means in our power should be used for relief before resorting to operation. This commends itself to his judgment and his conscience. He does not insist that there shall be always an exact diagnosis of the condition of the ovaries and tubes: it is sufficient to know that the patient is worn out and utterly miserable from faulty performance of function, and he extirpates the ovaries. Observation has shown that in these cases the ovaries are commonly diseased. The operation is justified by its results. The reply to the question would be the same as that made a few years ago: "I remove the ovaries when the general health of the patient is broken down and destroyed and I can see no other hope of restoration by any known means, and where I do see a reasonable hope of recovery as a result of the operation."

Dr. BARKER congratulated himself upon having certain points made clear, and thought that the preceding speaker had laid surgical gynæcologists and the ranks of suffering women under obligation, in stating that he did not wait to make his diagnosis until he opens the patient's abdomen.

Dr. SUTTON believed that when an ovary is diseased and cannot be cured by medical means, and it is interfering with the health of the patient and her duties in life, it should be extirpated. He agreed with the reader of the paper that laparotomy is performed too much; not that it is done too much by competent men, but it is done too much by incompetent men. It would have been far better if Tait's statistics had never been published. It is not always possible to make an exact diagnosis before opening the abdomen, nor

is it always easy afterwards. (Several specimens were shown illustrating difficulties of diagnosis.)

Dr. BUSEY referred to the histological analogy existing between serous membrane and cellular tissue, and claimed that the affections named should be included under one head,—pelvic lymphangitis. He hoped the time would come when we could have some surer guide to the limits of usefulness of the operation than moral or social considerations and the general appearance of the patient.

Dr. SCOTT reported several cases of successful operation.

Drs. MANN and H. P. WILSON concurred in the sentiments of the paper.

JOHN C. REEVE, M.D., of Dayton, read an interesting account of

A CASE OF ABDOMINAL SECTION FOR CHRONIC SUPPURATIVE PERITONITIS,

followed by a successful result, except that a fæcal fistula had formed, pus having been discharged per rectum prior to the operation.

A general discussion took place upon the operation, in which Dr. SCOTT, Dr. GOODELL, Dr. C. C. LEE, Dr. R. S. SUTTON, and Dr. J. T. JOHNSON participated. Dr. REEVE then made some concluding remarks.

The Society then adjourned, to meet the following morning.

The Baltimore Gynæcological and Obstetrical Society gave a reception and banquet to the Association in the evening, at Rennert's Hotel.

Second Day, Business Session.—The following officers were elected:

President.—A. J. C. Skene, M.D., Brooklyn.

Vice-Presidents.—J. C. Reeve, M.D., Dayton, Ohio; Ellwood Wilson, M.D., Philadelphia.

Secretary.—J. Taber Johnson, M.D., Washington.

Treasurer.—M. D. Mann, M.D., Buffalo.

Members of Council.—W. H. Baker, M.D., Boston; F. M. Drysdale, M.D., Philadelphia; C. C. Lee, M.D., New York; A. Reeves Jackson, M.D., Chicago.

The next place of meeting, New York; time, September 15, 1887.

With regard to the proposition to co-operate in the movement for confederation of the various special societies, it was received, and, on motion, delegates were appointed to express favorably the sentiments of this body at the convention called for September 24, 1886.

(To be continued.)

ANTIPYRINE NOT TO BE GIVEN IN PNEUMONIA.—Posadski reports a number of illustrations of the bad effects from antipyrine administered during the course of pneumonia.

MEETING OF COMMITTEES ON CONFERENCE OF VARIOUS SPECIAL ASSOCIATIONS REQUESTED TO PARTICIPATE IN A CONJOINT SESSION.

IN response to the notice issued by the Secretary of the Committee on Conference of the American Surgical Association, the several Committees on Conference met at the Army Medical Museum, Washington, D.C., at twelve o'clock noon, on Friday, September 24, 1886.

The meeting was organized by the election of Dr. S. C. Busey, of Washington, Chairman, and Dr. J. Ewing Mears, of Philadelphia, Secretary.

The Secretary reported that he had received notification of the appointment of the following Committees:

1. *American Ophthalmological Association.*—O. F. Wadsworth, M.D., Boston; C. T. Bull, M.D., New York; George C. Harlan, M.D., Philadelphia; Samuel Theobald, M.D., Baltimore; R. E. Freyer, M.D., Kansas City, Missouri.

2. *American Otological Association.*—C. R. Agnew, M.D., New York; H. Knapp, M.D., New York; John Green, M.D., St. Louis; W. H. Carmalt, M.D., New Haven, Connecticut; George Strawbridge, M.D., Philadelphia.

3. *American Gynæcological Society.*—S. C. Busey, M.D., Washington; Fordyce Barker, M.D., New York; J. R. Chadwick, M.D., Boston; J. Taber Johnson, M.D., Washington; Thomas A. Emmet, M.D., New York.

4. *American Laryngological Association.*—J. Solis Cohen, M.D., Philadelphia; F. I. Knight, M.D., Boston; G. W. Lefferts, M.D., New York; F. H. Bosworth, M.D., New York; E. L. Shurly, M.D., Detroit.

5. *American Dermatological Association.*—H. G. Piffard, M.D., New York; F. B. Greenough, M.D., Boston; R. B. Morrison, M.D., Baltimore; L. N. Denslow, M.D., St. Paul, Minnesota; G. H. Tilden, M.D., Boston.

6. *American Surgical Association.*—C. H. Mastin, M.D., Mobile; C. T. Parkes, M.D., Chicago; N. Senn, M.D., Milwaukee; J. Ford Thompson, M.D., Washington; J. Ewing Mears, M.D., Philadelphia.

7. *American Neurological Association.*—L. C. Gray, M.D., Brooklyn; J. Van Bibber, M.D., Baltimore; E. C. Seguin, M.D., New York; Wharton Sinkler, M.D., Philadelphia; Philip Zenner, M.D., Cincinnati.

8. *American Climatological Association.*—A. L. Loomis, M.D., New York; F. Donaldson, M.D., Baltimore; F. C. Shattuck, M.D., Boston; E. T. Bruen, M.D., Philadelphia; W. W. Johnston, M.D., Washington.

9. *Association of American Physicians and Pathologists.*—William Pepper, M.D., Philadelphia; Francis Delafield, M.D., New York; R. T. Edes, M.D., Boston; J. Palmer Howard, M.D., Montreal; J. T. Whittaker, M.D., Cincinnati.

The roll was called, and the following members of the Committees answered to their names:

1. Ophthalmological Association: O. F. Wadsworth, M.D., Samuel Theobald, M.D.
2. Otological Association: C. R. Agnew, M.D., W. H. Carmalt, M.D.
3. Gynæcological Society: S. C. Busey, M.D., J. R. Chadwick, M.D., J. Taber Johnson, M.D.
4. Laryngological Association: F. I. Knight, M.D., E. L. Shurly, M.D.
5. Dermatological Association: H. G. Piffard, M.D., G. H. Tilden, M.D.
6. Surgical Association: C. H. Mastin, M.D., J. Ford Thompson, M.D., J. Ewing Mears, M.D.
7. Neurological Association: L. C. Gray, M.D., J. Van Bibber, M.D.
8. Climatological Association: F. Donaldson, M.D., W. W. Johnston, M.D.
9. Association of American Physicians: William Pepper, M.D.

Dr. William Thomson, of Philadelphia, was present as a member of the Committee of the Otological Association, in place of Dr. George Strawbridge, who had resigned from the Committee; and Dr. W. Hendrie Lloyd, of Philadelphia, was present as a member of the Committee of the Neurological Association, in place of Dr. Wharton Sinkler, who had resigned.

On motion, it was resolved that the Associations represented should vote by title, taken in chronological order, and as a unit.

Dr. William Pepper offered the following resolutions, which, after careful consideration and discussion by those present, were adopted separately, and then as a whole:

"*Resolved*, 1. That it is desirable that the following Societies—the American Surgical Association, the American Ophthalmological Association, the American Otological Association, the American Neurological Association, the American Laryngological Association, the American Gynæcological Society, the American Dermatological Association, the American Climatological Association, the Association of American Physicians and Pathologists—shall arrange for a conjoint meeting in the city of Washington, in the month of September, 1888, and subsequently at intervals of three years, at the same time and place.

"2. That this arrangement shall not interfere in any way with the autonomy of each special Society; and that each Society shall retain the right to withdraw at any time from this conjoint scheme.

"3. That the special feature of the meeting shall be the conjoint assemblage of the special Societies on two evenings during the session; on one of which there shall be an address delivered by the President of the conjoint meeting, and on the other there shall be communications by a referee and a co-referee on some subject of general professional interest.

"4. That each special Society approving this report is invited to appoint one representative (with an alternate), and that the representative so appointed shall constitute an Executive Committee to serve for one year, with power to elect such officers for the first conjoint meeting as may be deemed necessary; to prepare a programme for said meeting; to make all other necessary arrangements; and to prepare and submit a plan of organization for future meetings.

"5. That all expenses connected with the conjoint sessions shall be apportioned equally by the Executive Committee among the special Societies participating."

Owing to the views entertained by the Committees of the Ophthalmological and Dermatological Associations with regard to the intervals of times of the meetings, they abstained from voting upon the first resolution.

The Secretary was instructed to send to the medical journals of the country a report of the proceedings of the meeting, a printed copy of the same to each member of each Association participating, and a certified copy to the Secretary of each Association.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held September 8, 1886, the President, JOHN A. WYETH, M.D., in the chair.

NOTABLE ATHEROMA OF THE CORONARY ARTERIES AND OF THE ARTERIES AT THE BASE OF THE BRAIN; FATTY PANCREAS.

Dr. LOUIS WALDSTEIN presented the specimens, which were interesting chiefly on account of the absence of symptoms pointing to disease of the heart. The patient had had diabetes and albuminuria. The autopsy revealed calcification of the coronary arteries in a marked degree, also of the arteries at the base of the brain. There was a less marked atheromatous change in some other portions of the arterial system. The man was very fat, and the pancreas was a mass of fat nearly throughout its entire extent. The liver was fatty and cirrhotic; the kidneys were large, and of a pale grayish-yellow color.

DERMOID CYST OF THE OVARY AND BROAD LIGAMENT.

Dr. EUGENE HODENPYL presented the specimen, which was removed from the body of a woman, æt. 45, who died of pneumonia. The uterus and left ovary were normal. The right Fallopian tube was elongated, measuring one hundred and thirty millimetres. The left ovary was enlarged, being forty-three millimetres in length and twenty-two millimetres in thickness. It was lower down in

the pelvis than normal. Occupying nearly the whole of its substance were three communicating cysts filled with a white, semi-solid material, composed of fat-droplets, epithelial scales, and a considerable number of short, fine hairs. The cyst-wall was formed of dense connective tissue. In the substance of the ovary were a number of very small masses of calcareous material. Within the folds of the broad ligament, and extending from its outer attachment as far as the uterus, was a multilocular cyst, which communicated with those in the ovary. It measured one hundred and twenty millimetres in length, forty millimetres in depth, and eighteen millimetres in thickness. It contained the same elements as the cysts of the ovary, but its contents were softer and darker in color, and the hair and epithelial scales were less numerous.

Dr. PRUDDEN had seen the specimens when fresh, and it was a question whether the two cysts were originally entirely separate.

URETHRAL CALCULI.

The PRESIDENT presented the specimens, which were removed from a man on whom he had operated for urethral calculi in 1882 and 1883. When the patient presented himself, some months ago, he found a calculus occluding the urethra five inches from the meatus. At the former operations he had divided urethral strictures, but he decided now to cut down upon the calculus directly from below. Two calculi were found in the urethra, and some small ones within the bladder. The patient had a chill, followed by fever and finally death. An autopsy was not obtained, but it was probable there was disease of the kidneys, of which there had been some symptoms.

REVIEWS AND BOOK NOTICES.

A REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Vol. III. Illustrated by Six Chromo-Lithographs and Seven Hundred and Eighteen Fine Wood Engravings. Edited by ALBERT H. BUCK, M.D. Supplied to Subscribers only. Price per Volume, Cloth, $6; Sheep, $7; Half morocco, $8. William Wood & Co., New York, 1886. Pp. 813.

The present volume of this splendidly-illustrated work of reference includes subjects from "Face" to "Hysterotomy." Among the articles most worthy of mention are those upon the "Face, Fascia, and Foot," by Frank Baker, M.D.; "Fever," by George B. Shattuck, M.D.; "Field Surgeons and their Duties," by Joseph R. Smith, M.D.; "Fingers, Contractions of," by W. W. Keen, M.D.; "Fœtus, Development of," by Charles S. Minot, M.D.; "Forceps," by Theophilus Parvin, M.D.; "Fractures," by Lewis A. Stimson, M.D.; "Fungi, Edible and Poisonous," by F. Peyn Porcher, M.D.; "Gangrene," by Surgeon John B. Hamilton, M.D.; "Gout," by Walter Mendleson, M.D.; "Growths, Pathological, or Tumors and Gumma," by W. F. Councilman, M.D.; "Gynæcological Examinations," by Henry C. Coe, M.D.; "Habitations," by J. Pickering Putnam, M.D.; "Hæmoglobinuria," by F. P. Henry, M.D.; "Hand," by Thomas L. Steelman, M.D.; "Hearing," by William Gilman Thompson, M.D.; "Heart," by various contributors; "Hernia," by Middleton Michel, M.D.; "Histological Technique," by George Cornell Freeborn, M.D.; "Hospitals," by Edward Cowles, M.D.; "Hygiene," by Medical Director Albert L. Gihon, M.D., U.S.A.; "Hypnotism," by H. Gradle, M.D.; and on "Hysterectomy and Hysterotomy," by Andrew F. Currier, M.D. The brief illustrated articles upon "Medical Botany," by W. P. Bolles, M.D., add greatly to the value of the work, which we commend to the examination of our readers.

A TREATISE ON ELECTROLYSIS AND ITS APPLICATIONS TO THE THERAPEUTICAL AND SURGICAL TREATMENT OF DISEASE. By ROBERT AMORY, A.M., M.D. Harvard. Illustrated by nearly One Hundred Fine Wood Engravings. Supplied only to Subscribers for "Wood's Library of Standard Medical Authors" for 1886 (twelve vols., price, $15), of which this is Vol. VIII. New York, William Wood & Co., 1886. 8vo, cloth, pp. 314.

On account of the prominence which electrolysis is assuming in therapeutics, there is felt in the profession generally a need for better knowledge of the principles and practice of this interesting and important department of electropathy. Dr. Amory in this monograph begins with a statement of the principles of physics as applied to electrolysis, and subsequently discusses at length the applications of these principles in the treatment of disease, explaining the various forms of apparatus, and their employment in a number of conditions. The author has succeeded in making a very useful book, which is clearly printed on good paper. The illustrations are excellent, some of them being from photographs of cases.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third Series. Vol. VIII. Printed for the College, and for sale by P. Blakiston & Co., 1886.

The present volume contains the papers read before the College from November, 1884, to June, 1886, inclusive, and discussions thereon, preceded by memoirs of Dr. John Light Atlee and of Dr. George Hamilton, and

lists of officers and Fellows. From a hasty review of its pages, we believe that in variety of subjects discussed in the papers, and in the high character of the papers themselves, the volume is one of the best that has been issued by the College, which will soon celebrate its centennial anniversary.

POCKET MEDICAL FORMULARY, ARRANGED THERAPEUTICALLY. By ALEXANDER HAZARD, M.D., and BERNARD M. GOLDBERG, M.D. Revised and Enlarged by ABRAHAM S. GERHARD, A.M., M.D., etc. With an Appendix containing Formulas and Doses of Hypodermic Medication, a Table of Eruptive Fevers, and Poisons, their Symptoms, Antidotes, and Treatment. Philadelphia, 1886. 12mo, pp. 434. With flap.

This is a very convenient hand-book, containing formulæ which have been recommended by various authorities for a large range of disorders. A running alphabet, in index form, at the side of the page, greatly facilitates reference. For students especially, the drug combinations and therapeutic suggestions contained in its pages will be found very valuable. Additions can be made upon blank pages which are interleaved.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY. AUTHORS AND SUBJECTS. Vol. VII., Insignarès-Leghora. Washington, Government Printing-Office, 1886.

The seventh volume of this great index-catalogue contains 14,688 authors and titles, representing 5987 volumes and 12,372 pamphlets; also 6371 book-titles and 34,903 journal articles. It also contains a list of abbreviations of titles of periodicals and collective works, used in indexing, which have been used in preparing all the volumes which have thus far been published. This will be found a great convenience to facilitate reference.

NEW REMEDIES AND CLINICAL NOTES.

THE TREATMENT OF ERYSIPELAS.—An interesting contribution to the treatment of erysipelas emanates from the University Clinic of Professor Kraske, of Freiburg, Dr. G. Kuehnast being the reporter, in No. 9 of the *Centralblatt für Chirurgie*.

Kuehnast formulates his views as follows:

1. The treatment of erysipelas by multiple scarifications and incisions, with subsequent application of carbolic acid, is the most effective method at our disposal.

2. The method is not to be recommended in cases of light erysipelas, and in cases of erysipelas of the face or of other exposed surfaces.

3. Certain modifications may be practised. Thus, in extensive erysipelas in decrepit individuals the scarifications may be limited to the margins where the process is progressive.

In children and old people it is advisable to substitute salicylic or boric acid for the carbolic-acid washings and dressings.—*Weekly Medical Review*.

RHEUMATIC HYPERPYREXIA.—Dr. H. Barnes, in a paper read before the Carlisle Medical Society, urges that in all cases of acute rheumatism, as soon as there is any indication of nervous symptoms, and particularly in patients of a high degree of nervous susceptibility, a careful watch should be kept on the temperature. Dangerous symptoms may be sudden in their onset, and drug treatment seems entirely to fail to arrest them. He recommends the application of cold when the temperature reaches 105°. The graduated bath is the method he most approves of, commencing it at 90° and gradually reducing it to 70°. As soon as the temperature is sufficiently lowered, the treatment should be suspended and the patient placed in warm blankets; otherwise dangerous symptoms of collapse may supervene.—*Edin. Med. Journ.*, June, 1886.

MISCELLANY.

THE CHARLESTON MEDICAL RELIEF FUND.—The announcement that "Charleston physicians are in great need," which was made immediately after the recent dreadful disaster by some of our well-meaning but impulsive contemporaries, was, we are glad to learn, exaggerated. While, as individuals, the members of the medical profession in Charleston, as a rule, neither need nor would accept pecuniary aid, the case is different with the Medical College of the State of South Carolina, which, we regret to see, suffered severely, and unless repairs are promptly made, which will require at least six thousand dollars, the school will be compelled to lose the winter session. Contributions should be sent to Middleton Michel, M.D., Charleston, South Carolina, either for the immediate relief of the families of the profession or for the rebuilding of the college.

OPIUM-GROWING IN THE UNTED STATES.—Last year an attempt at the cultivation of opium was made at New Ulm, Minnesota, by Mr. Emil Heschke. Several kinds of poppies were experimented with, and specimens of the *Papaver somniferum* were raised whose unripe capsules yielded opium containing fifteen and two-tenths per cent. of morphine. The Pharmacopœia requires that opium shall contain ten per cent. of morphine: so that the Minnesota production came fully up to the stand-

ard. But, for some reason, it was concluded that the production of opium would not be profitable, and it is not likely that this industry will be added to the resources of our State, at least at present.—*Northwestern Lancet.*

THE EDITOR OF "THE LANCET'S" CONFESSION OF FAITH.—Some time before his death, the late Dr. James G. Wakley made a special request that the following confession of faith should be introduced into any notice of his life which might appear in the pages of *The Lancet:* "Feeling my deep responsibility to God for the position in which in His providence He has placed me, I desire to testify to the comfort derived during my sickness from a lively faith in our Lord Jesus Christ, and that I die in the sure hope of a glorious resurrection."

THE MEDICAL QUIZ OF JEFFERSON MEDICAL COLLEGE.—Drs. L. Wolff, R. Leaman, A. P. Brubaker, Orville Horwitz, J. K. Bell, A. C. W. Beecher, and Henry Morris have opened, at the northeast corner of Tenth and Walnut Streets, a convenient and attractive reading-room and club-room for the accommodation of students.

PROVIDING FOR THE FAMILY OF PROFESSOR VON GUDDEN.—A gratuity of ten thousand pounds has been granted from the Bavarian Civil List to the widow of Professor Von Gudden, of Munich, who perished with the late King of Bavaria in the lake at Castle Berg. He left a family of eleven children.

E. O. SHAKESPEARE, M.D., having returned to this city from his special mission to study cholera at its home in India, was honored by a large reception by the profession of Philadelphia and vicinity, on the 29th ult., at the Hotel Bellevue.

THE AMERICAN ACADEMY OF MEDICINE will hold its next annual session at Pittsburg, Pennsylvania, October 12 and 13.

THE AMERICAN RHINOLOGICAL ASSOCIATION will hold its fourth annual meeting in St. Louis, Missouri, October 5, 6, and 7.

NOTES AND QUERIES.

ERGOT IN THE THIRD STAGE OF LABOR.

MR. EDITOR,—In your issue of September 18, Dr. J. W. McFarlane, of Pittsburg, criticises my paper of the 4th instant. Will you kindly indulge me with space in your journal to answer him? He says, "Giving ergot to every case seems not only irrational but harmful." I have been using it for the last three years, and, though it may *seem* irrational, I certainly have not *found* it harmful. In fact, my experience has been exactly the opposite, as stated in my paper.

Labor is becoming no longer a physiological process, or, if it be such, pathological agencies mar the normal results and we must lend our aid. No man would think of withholding his services, when asked for a dysmenorrhœa, on the ground that menstruation "is a physiological process."

When labor is truly a physiological process, any old granny who knows enough to tie and cut the cord will do for an *accoucheur*.

In my paper I distinctly state what I expected to accomplish when I give ergot after the expulsion of the placenta. I say, "It lessens or prevents after-pains, it hastens involution to a marked degree, and it reduces to a minimum the dangers of septic absorption." I do not claim for it that it will "ward off septic trouble and what not," but that "it will *reduce to a minimum* the dangers of septic infection."

In the last paragraph but one of his criticism the gentleman strikes the key-note of the whole position. He says that after his favorite manipulation, "in certain cases where patients are feeble" he "followed it up with ergot to *guard against possible danger*." (Italics are mine.) Now, what more than this do I advocate? It is only to guard against possible danger that I give ergot; and where a man, as one in country practice, is not of easy access to his cases, it is a decided comfort to know that everything possible has been done to guard against possible danger either of hemorrhage or of septic absorption.

Hoping, sir, you will pardon me for encroaching on your space, I remain

Very truly yours,
V. M. REICHARD, M.D.

FAIR PLAY, MARYLAND, September 20.

A RARE OPPORTUNITY is offered to a regular practising physician to secure a paying city practice in Cleveland, Ohio. The office has been established sixteen years, is well located and furnished, and commands a profitable practice, to whom the purchaser will be personally introduced and commended.

Communications for particulars, to receive attention, must be accompanied by reference as to professional and personal standing, and addressed to

J. W. RABE,
835 Market Street, Philadelphia.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 12, 1886, TO SEPTEMBER 25, 1886.

FIRST-LIEUTENANT W. W. R. FISHER, ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect September 10, with permission to apply for one month's extension. F. O. 88, Department of Arizona, September 1, 1886.

FIRST-LIEUTENANT CHARLES M. GANDY, ASSISTANT-SURGEON.—Assigned to duty at Fort Concho, Texas. S. O. 131, Department of Texas, September 18, 1886.

FIRST-LIEUTENANT PHILIP G. WALES, ASSISTANT-SURGEON.—Resignation accepted by the President, to take effect November 5, 1886. S. O. 212, A. G. O., September 11, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDED SEPTEMBER 25, 1886.

AUSTIN, H. W., SURGEON.—Granted leave of absence for thirty days, September 16, 1886.

GOLDSBOROUGH, C. B., SURGEON.—Promoted and appointed Surgeon from October 1, 1886, September 9, 1886.

YEMANS, H. W., PASSED ASSISTANT-SURGEON.—Granted leave of absence for ten days, September 16, 1886.

BEVAN, A. D., PASSED ASSISTANT-SURGEON.—Promoted and appointed Passed Assistant-Surgeon from September 1, 1886, September 7, 1886. Granted leave of absence for thirty days, September 7, 1886.

GLENNAN, A. H., PASSED ASSISTANT-SURGEON.—Promoted and appointed Passed Assistant-Surgeon from September 1, 1886, September 7, 1886.

NORMAN, SEATON, ASSISTANT-SURGEON.—To proceed to Vineyard Haven, Massachusetts, for temporary duty, September 9, 1886.

BAILHACHE, P. H., SURGEON.—Granted leave of absence for thirty days, September 25, 1886.

VANSANT, JOHN, SURGEON.—Granted leave of absence for thirty days, September 24, 1886.

BRATTON, W. D., ASSISTANT-SURGEON.——Relieved from duty on Revenue Steamer "Corwin;" ordered to duty at Marine Hospital, San Francisco, California, September 20, 1886.

PHILADELPHIA, OCTOBER 16, 1886.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON THE ASEPTIC AND ANTISEPTIC TREATMENT OF WOUNDS.

Delivered at the Pennsylvania Hospital. Opening Lecture, October 2.

BY THOMAS G. MORTON, M.D.,

One of the Attending Surgeons.

GENTLEMEN,—I have a few cases to present to you this morning which I think will be of interest, but before doing so wish to refer to the method now pursued in the treatment of wounds in this hospital. When I was a resident physician here, more than twenty-five years ago, and during the succeeding years as attending surgeon, the plans of treatment were very different: they were constantly changing, and varied with the convictions or whims of the surgeon on duty, in the hope of securing better results after surgical operations and in the treatment of wounds generally. Does not the very fact that there has been no one well-defined plan followed here or in any other hospital, or by any surgeon, show that no plan was universally acknowledged to be best and that all were more or less unsatisfactory? I can recall cases that were attended with bad results, and many that ended fatally, which under the present mode of wound-treatment would unquestionably have recovered, and lives were lost which should not even have been imperilled.

Within the last few years a great change has occurred. The principles of antiseptic surgery as originated and developed by Lister have now become firmly established, and are revolutionizing wound-treatment. This system, as it may now be called, has been so perfected that it has reached a point which permits me to show you to-day results entirely unattainable by any other means known among mankind.

Antiseptic surgery had never been thoroughly introduced in this hospital until within a comparatively recent period, and this new departure has been effected chiefly through the great interest in the subject and attention devoted to it by two of our resident physicians,—Dr. Charles B. Penrose and my son, Dr. Thomas S. K. Morton. The results of their careful and scientific work have necessitated the general introduction of antiseptic surgery in dressing wounds, whether accidentally inflicted or made by the knife of the surgeon.

To these gentlemen too much credit for perseverance and skill cannot be given. I believe that you will see as a result of their labor results which will convince you that antiseptic surgery, if properly carried out, is *scientific surgery*, and to my mind *there is none other*. The first case to illustrate my remarks is this patient, aged 46 years, who leaves the hospital to-day perfectly recovered. He was admitted on the 8th of September last, with a compound, comminuted, depressed fracture of the skull in the right parieto-frontal region. In this case the trephining operation was done under strict antisepsis. The man was up and about the ward on the fourth day; and when the primary dressing was removed it was found that the catgut sutures placed to keep the wound together, as well as the catgut drain, had entirely disappeared, and complete primary union had occurred.

In the second case, one of old ununited fracture of the radius, with considerable absorption of bone, following a simple fracture, where several attempts had been made to obtain bony union, but without success, I was satisfied that there was no use of repeating the old operation, because there was a gap between the ends of the radius. In order to fill this up, I was obliged to resect the ulna. I therefore first removed an inch and a quarter from the lower third of the shaft of the ulna; this brought the ununited ends of the radius together, which were freshened by sawing off the ends of the bone. The ends of the radius and ulna were then united by chromicised catgut ligature. This operation was performed twelve days ago under strict antiseptic precautions, as in the former case. There has been no rise of temperature since the operation, and the wound has not been disturbed since the first dressing was applied. The patient has been about the wards since the second day, and he is and has been perfectly well in all respects.

Cases of amputation, when dressed in the manner described, are allowed to go for two or three weeks before the primary dressing is taken off, when complete union

is found to have occurred. In fact, the dressings are usually not disturbed until the patient is considered ready to go out. Curiosity tempts the surgeon to examine these cases, but the first dressing should not be removed unless absolutely demanded by a rise of temperature.

Now, these are facts, and they are circumstances which I have not seen attending the amputations or the operations of surgery of former years. To what must be attributed these wonderful results? Why this contrast with the old practice, often requiring weeks and months in bed, with suppurating wounds and daily dressings, and occasionally hemorrhage and exhaustion and surgical fever? The question is answered when I tell you that it is due to antiseptic surgery and aseptic appliances. But, gentlemen, antiseptic surgery means scientific *antiseptic* surgery, and not partial antiseptic surgery. If you adopt antisepsis as a principle, it must be carried out absolutely. Do not omit in your treatment the minutest precaution which might assist in securing the results which you desire to obtain, and which you always will obtain if you are not negligent.

Certain facts must be borne in mind. If you could get absolute cleanliness you could get along without antiseptic appliances; but, as this is not possible, we adopt means which prevent contamination and infection in our wounds. We have often unfortunate surroundings, especially in hospital practice, against the influences of which all our efforts at cleanliness are unavailing. We, therefore, must have agents which will destroy micro-organisms, which are present everywhere, and by their growth breed fermentation and disease.

I show you to-day what I mean by aseptic dressings, which are suitable for every case, and are of universal application. Let me remark, however, that if these statements which I have made to you are true, then the surgeon who does not carry out antiseptic treatment does not give to patients under his care that security against infection, disease, and even death, which modern science has proved to be absolutely sufficient. If the surgeon does not obtain the results which other surgeons who practise antiseptic surgery obtain, then he should be held responsible; such a surgeon will be known by his results. If his operations are followed by prolonged suppuration, erysipelas, or pyæmia, he would, very likely, be condemned for not adopting the means which are at his command. These surgical complications are due to fermentation dependent upon parasitic organisms. The presence in the wound of these micro-organisms can absolutely be prevented by antiseptic dressings.

Certain agents are recognized as germicides,—carbolic acid, salicylic acid, boric acid, resorcin, and iodoform; but the most efficient is the bichloride of mercury. It is odorless, inoffensive, and can be used in such dilute solutions as to be free from danger to the patient while destructive to lower forms of life. We never use solutions stronger than one part of the bichloride to a thousand parts of water. A solution one-half this strength is commonly used externally, and as a douche to wounds while operating, and weaker solutions, down to one part to five or ten thousand parts of water, are employed for dressings. We always wash out the stronger solutions where there is possibility of retention in a cavity with risk of absorption, by much weaker ones. The same precaution may be observed with iodoform when it is brought in contact in bulk with raw surfaces. One of our residents, who was handling the solutions every day, was slightly affected by mercurial poisoning during this year; but with ordinary care such results should not occur to either patient or surgeon, unless through marked susceptibility.

Having shown you some examples of the good effects of these dressings, I will proceed to explain them in detail. In the man with the depressed compound fracture of the skull just presented to you, as I have already described, we cleaned the entire scalp with soap and water, and shaved it around the wound. The bare surface of the scalp was then washed with the stronger solution of bichloride of mercury, and towels wet with this solution were placed around the field of operation. The knives and instruments, which are always boiled after being used, and, if possible, also before, were carefully cleaned and kept immersed in a tray of three-percent. carbolic acid solution. The bichloride solutions dull the knives, so we use carbolic acid to keep them in instead. A douche of (1–2000) bichloride solution was directed from time to time upon the wound by an assistant during the operation of trephining and while the several pieces of com-

minuted bone were removed, and while the fragment of bone was elevated which had been depressed. In order to insure freedom from the accumulation of any serous or bloody discharge, we placed several filaments of catgut ligature, which drains by capillarity but will not convey pus, in the bottom of the wound and led them out the angle. This catgut had been rendered aseptic by preparation in a carbolized solution. In from five to seven days it becomes completely absorbed. If it is desired to avoid such rapid absorption, a catgut thread treated with chromic acid may be used, which is harder than the other and requires double the time for absorption. They are made sufficiently pliable to be used for ligatures to bleeding vessels or for stump-drains. They are cut off short, and never give rise to irritation, and need not give the surgeon a thought after their introduction. The wound is brought together as accurately as possible by interrupted catgut sutures. The wound having been again irrigated, the line of suture was covered by a small strip of protective made of silk treated with varnish and coated with dextrine, and a damp pad of bichloride gauze, thickly sprinkled with iodoform upon its skin surface, then placed on the part, and the whole held in position by a wet bichloride gauze bandage.

After getting the wound thoroughly aseptic, it is not possible for any parasite to live beneath the dressings. The surroundings of the wound were also made clean, and no infection can occur from without.

The gauze which I show you is an admirable material for wound-dressings. It is exceedingly cheap, and has wide interspaces, so that discharges are not pent up around the wound. It is immersed in a solution of one to one-thousand of bichloride of mercury. Over the gauze is usually placed a large pad of dry absorbent cotton which has previously been treated with the 1–1000 solution; the dressings are kept in place by a bandage, which is also made of gauze treated in the same way. After this is in place we do not care how many germs or other micro-organisms are floating in the air, they cannot infect the wound. You see in this patient what I challenge surgery anywhere in the world to produce without aseptic or antiseptic dressings,—a compound comminuted fracture of the skull, with serious depression, requiring trephining, completely cured by primary union in twenty-four hours, without fever or systemic disturbance whatever. This perfect result is due to antiseptic surgery and its proper application. In all my experience in this hospital and elsewhere, previously, I have never seen a case of this kind get well by primary union. The result was obtained solely by avoiding local irritation, while the ferment of suppuration has been kept away by securing an absolutely aseptic atmosphere.

You will hear some surgeons decry antisepsis in surgery. I have been a sceptic myself. You may hear them laugh about your precautions, and declare that they can get just as good results without them. But go and see their cases, look at their hospital wards, find out the length of time their cases remain under treatment, and whether erysipelas, cellulitis, and pyæmia ever occur in their practice. Observe, compare, and reflect. This is the only practical way to test the merits of treatment.

I have seen, but years ago, several cases of pyæmia at one time in the wards of this hospital; and one of the surgeons actually resigned because of the unfortunate results of his operations. In 1867 I was so much impressed with the necessity of greater cleanliness in the treatment of wounds that I devised this hospital ward-carriage to carry the dressings around the wards; it is also provided with a tank for supplying a douche of fresh water for the wounds; the basins which previously were placed under each bed were discarded, and sponges done away with and oakum substituted. When the basins and sponges were thus abolished, pyæmia greatly diminished in frequency. Forced ventilation was afterwards introduced, and by these combined means pyæmia was lessened, but not entirely eradicated, although for a period of more than five years, owing to scrupulous cleanliness and great care in every direction, not a single case of this dreaded disease occurred in this hospital.

Considered from the economical standpoint, it may strike you that this is not a cheap method of dressing wounds. As regards the first cost this may be true, but if you consider the saving in bandages alone —of one dressing in three or more weeks— over daily dressings, you will see that it is far less expensive than the former plan, to

leave out of consideration the time of the surgeon or the feelings of the patient. When the better results are taken into consideration, the greater safety and lessened mortality after operations, I think that you will agree with me that the expense is trifling, and that the antiseptic method is worth all the trouble that it costs to attain such results.

When you see, as you have to-day, that we can even open the skull, and resect a bone, and do this without any inflammatory reaction whatever, you obtain an idea of the possibilities of antiseptic surgery.

In private practice I treat my cases just as I do in the hospital. By means of a douche and a rubber tube you can keep up a stream of bichloride solution upon the field of operation. I carry with me a solution of corrosive sublimate, of the strength sufficient, if half a drachm of it be added to a quart of water, to give me a 1–1000 solution, which I can also use for dressings. The hands and finger-nails of surgeon and assistants are cleansed by scrubbing with soap and water, and then washed in this antiseptic solution. A rubber sheet (previously cleaned) should be placed under the part to be operated upon, in order to carry off the washings and discharges. When the lower extremities are to be operated upon, it is well to elevate the head of the bed by placing bricks under the posts, or by a special apparatus in the operating-table, which I exhibit here; a tray is attached to the foot of this table to catch the waste. In operating you will require something to absorb the discharges and cleanse the parts better than a towel. We use commercial sponges in the hospital, bought by the bale, and put through a bleaching and cleansing process. Thus prepared, they cost about half a cent apiece, and are used but once.

I will now show you two cases which require in each an amputation of the leg, and our method from first to last will be with a view to the strictest antisepsis. The first case is one of crush of the tarsus, in which an unsuccessful attempt has been made by my predecessor to save part of the foot by a Pirogoff amputation. Sloughing of the flaps has occurred, and an amputation of the limb higher up is demanded.

I shall now apply the principles already explained to you in performing this operation and in dressing the stump afterwards. I am partial to the Teale method of amputation of the leg, because it gives the best stump for an artificial limb, the cicatrix being at the side.

[The patient, a man 20 years of age, was then etherized. After the leg was washed with soap, shaved, and cleansed with bichloride solution, an Esmarch bandage (previously disinfected) was placed on the limb. The field of operation was next uncovered and surrounded with towels wet with the same solution. The knives were kept in the tray immersed in a three-per-cent. solution of carbolic acid. The circumference of the limb was taken at the place where it was intended to divide the bones; the long flap was then mapped out, rectangular in shape, one-half the circumference of the limb; the short flap was one-fourth the length of the long flap. The arteries were then tied with carbolized catgut, and the wound carefully cleansed of all spiculæ of bone or blood-clots; a few catgut threads were introduced as a drain, the flaps brought together with interrupted sutures of catgut, the protective placed over the sutures, and iodoform and bichloride gauze was applied. The whole stump was finally covered with dry absorbent cotton (previously treated with a solution of bichloride), kept in place with a wet gauze bandage similarly treated with the mercurial solution. The patient was then covered up warm and a bottle of hot water placed to the remaining foot.]

These dressings will remain undisturbed for three weeks or longer, unless some unexpected symptoms appear calling for earlier interference.

The second case I show you has just been admitted: he is 37 years of age, and has sustained a severe crush of the right leg, has a simple fracture of the right clavicle, and several ribs on the same side have been also fractured, and he has a crush of the left tarsus. His condition is serious, but with antiseptic precautions he ought to do well. The right limb requires amputation, for bones, muscles, nerves, and blood-vessels are concerned in the crush; the left foot will probably be saved; we shall at least make the attempt.

[Amputation of the upper third of the leg was performed, with the same precautions in regard to antiseptic dressings.]

ORIGINAL COMMUNICATIONS.

A CONSIDERATION OF THE BACTERIA OF SURGICAL DISEASES.

Read, by invitation, before the American Surgical Association

BY HAROLD C. ERNST, A.M., M.D. HARV.,

Demonstrator of Bacteriology in the Medical School of Harvard University.

VERY many observations have been made, extending over a long space of time and by many different observers, with the object of determining the etiology of the pus-forming processes in man. Before our knowledge of bacteriological methods was as precise as is now the case, such experiments as those of Councilman (*Virchow's Archiv*) and others were considered to be conclusive. These experiments showed, or seemed to show, that the introduction of simple irritant substances into the animal tissues was sufficient to set up a more or less marked degree of irritation, followed by suppuration and the production of a localized or sometimes of a general purulent process. The materials used were croton oil, turpentine, and the like, and the results observed after their introduction into animals were ascribed to a specific power which they possessed, which could, and generally did, produce pus-formation when such materials came in contact with animal tissues. These experiments seemed conclusive at the time they were published, but, with our more recent and intimate knowledge of the bacteria, their fallacies are easily to be perceived, and are seen to lie very largely in the imperfect methods taken to prevent the activity of bacteria, and the fact that these latter were not sought in the lesions produced by means which would lead to their detection if present. It is not surprising, therefore, to read the results of Klemperer in his admirable paper upon this subject (*Zeitschr. f. klin. Med.*, Bd. x. S. 198, and *Fort. d. Med.*, 1886, S. 34). Thinking, and with apparently good reason, that the results of other observers might be due, in part at least, to the imperfect sterilization of the *skin* of the animals experimented upon, this author made all his inoculations at a point which had been just previously seared with a red-hot iron, and again used the actual cautery at the point of inoculation after the operation was over. Of course, the syringe and material employed were thoroughly sterilized in the usual way. Experiments were made in large numbers, with acids, alkalies, cantharides, mustard oil, petroleum, and other irritating materials, and upon rabbits, guinea-pigs, and mice. Pus-formation *never* occurred: at the most, the only sign of any local or general disturbance being a moderate localized serous effusion. After the use of croton oil or mercurial injections, there occurred in some cases a firm necrotic (diphtheroid) infiltration,—Weigert's acute coagulation-necrosis. In only three of a large number of cases did suppuration occur, and in all of these cases micrococci were found in the pus, and the observations were therefore considered imperfect.

The observer concludes that the strongest chemical cannot produce suppuration without the presence of bacteria, and his results certainly seem to support this view. He found also a micrococcus, which under ordinary circumstances would produce no suppuration upon inoculation into animals, but which would set up a flow of pus if an irritation were produced such as would result after the introduction of acrid materials into the tissues.

Scheuerlin (*Von Langenbeck's Archiv*, Bd. xxxii. Heft 2) has also investigated this question, and has come to the same conclusion as Klemperer, that no suppuration will occur without the presence of micro-organisms. His method of experimentation was to place from one to four drops of the irritating substance in capillary tubes. These tubes were sealed, sterilized in the moist chamber, and introduced under the skin of rabbits with all possible antiseptic precautions. When the incision made for their introduction was thoroughly healed, taking six days as a rule, the tubes were broken under the skin, and the animals were killed in from four to eight days. Thirteen irritating substances were used, such as oil of turpentine, croton oil, oil of mustard, formic acid, etc., with distilled water as a control. In only one case was suppuration observed, and bacteria were found in this one.

The point being determined, therefore, that there is at least a very strong probability that no suppuration occurs without the presence and activity of bacteria, the study of the organisms concerned in these processes becomes at once of great interest.

Pasteur was one of the first to investi-

gate the subject, and his *vibrion septique* was one of the first of the organisms connected with a septic process with anything like certainty (*Bull. de l'Acad. de Méd.*, 1877, p. 793). Since that time "the micrococcus of pus" and like expressions have been commonly employed as denoting a single organism which might be held responsible for all purulent processes, but with unreasonable inaccuracy, as later investigations have shown. In other words, there is not one but a number of pus-producing bacteria, which have been fairly well identified and described, and there is no reason to suppose that this number will not be added to as the investigations in this direction are proceeded with.

Rosenbach was the first observer to differentiate more than one variety of pus-forming micro-organism in man ("Micro-organismen bei den Wundinfektionskrankheiten des Menschen," 1884), and was quickly followed by Krause, Passet, Hoffa (*Fort. d. Med.*, 1886, S. 75), and others, working in the same direction. Of course, the pioneer in this as in most other of the exact work in modern bacteriology was Koch, who gave indications of the direction and methods of research in his classic "Wundinfektionskrankheiten."

Of the bacteria concerned in pus-formation which have been found in the human body, and shown to possess pathogenic properties by inoculation experiments upon animals, there are at least twelve varieties which have been described with sufficient accuracy to make it possible for any observer to identify them. This identification, however, is not a simple matter of staining reaction and microscopic observation, as is the case with the bacillus of tuberculosis, but includes all of the means adopted for the classification of micro-organisms from a bacteriological point of view,—not, however, from a botanical stand-point.

The "points" of any bacterium, which form collectively the diagnostic evidence of its place in the classification, are: 1, its form, size, and arrangement; 2, its power of motion or not; 3, its behavior upon the three great classes of culture-media, nutrient gelatin, nutrient agar-agar, and solidified blood-serum, including the form and color of the colonies, and its appearance upon plate-cultures; 4, the temperature at which it flourishes best; 5, the rapidity of the development of the colonies; 6, whether it produces spores or not; 7, whether or not air is necessary for its growth,—aërobic or anaërobic; 8, whether it produces gas or not; 9, its behavior in gelatin,—that is, whether it does or does not liquefy the nutrient gelatin; 10, its behavior towards staining-materials; 11, its pathogenic properties when inoculated into the lower animals.

All of these points must be investigated when it is desired to obtain complete evidence in regard to any special bacterium, and sometimes it is necessary to go through them all before it can be determined that it is one rather than another variety which may be under observation. From this statement it may be easily seen that it is occasionally a difficult matter to say with what organism a given observer has been working.

Rather than to run over all the work of each one separately, in order to give a clear idea of what has been done by the various observers in this line of investigation, I have thought it best to give a summary of the various bacteria thus far found in the "infectious wound-diseases" of man, according to the above method of classification. In this it seems to me as if a clearer idea of them could be conveyed than by any other hasty method.

1. In the first place comes the Staphylococcus pyogenes aureus, very abundant in pus, first described by Rosenbach ("Mikro-organismen bei den Wundinfektionskrankheiten des Menschen") and Passet ("Aetiologie der eiterigen Phlegmonen des Menschen"). They are cocci of variable size, occurring in masses, and often as diplococci, of an average diameter of 0.87 μ. On agar-agar at 37° C. they grow as a glistening raised colony, two to four millimetres broad, of a bright orange color. This color may often appear only after some time, and is then accompanied by a smell like that of sour paste. In gelatin there is generally a cloudy, grayish streak, which after about three days becomes of a yellowish, finally orange color, and liquefies the gelatin, into which the colony sinks. By a needle plunged into agar-agar there is presented a cloudy, beaded yellowish line, which becomes opaque after twenty-four hours, and later of an orange color. There is a layer three to four millimetres broad, extending over the surface of the agar-agar about the point of

entrance of the needle. On sterilized potato the colony has an orange-yellow centre, with a thin, whitish, almost transparent border, which gradually becomes thicker and yellow. There is also the strong paste-smell. Its growth in blood-serum is exactly as upon agar-agar. It grows best at from 30° to 37° C., somewhat more slowly at summer temperature. It retains its vitality for a long time without oxygen, and produces no gas-formation. It liquefies nutrient gelatin and produces an orange-yellow pigment. Injected into the peritoneal cavity of rabbits and other animals, it will produce death after twenty-four hours, or else a tremendous suppuration which may last ten days or more.

This and the micrococcus of osteomyelitis (Becker, *Deutsch. Med. Woch.*, 1883, No. 46) are probably identical, because the behavior of the two under cultivation is the same; they are the same under the microscope, and the results after inoculation are the same.

2. The Staphylococcus pyogenes citreus found in pus and described by Passet (*l. c.*) has precisely the same properties as the preceding, except that its colonies are colored lemon-yellow instead of orange-yellow. It is not nearly so common as the Staphylococcus aureus.

3. The Staphylococcus pyogenes albus (Rosenbach, *l. c.*) occurs in pus less frequently than the Staphylococcus pyogenes aureus, and has the same morphological characteristics and similar pathogenic properties, but in a milder form, producing as a rule only localized abscesses when introduced under the skin of the lower animals.

4. The Micrococcus pyogenes tenuis (Rosenbach, *l. c.*) occurs in large subacute abscesses mostly, and is a form of micrococcus somewhat larger than the staphylococci, without regular arrangement. It grows on the surface of agar-agar, as a thin, almost transparent layer, and in the substance of the same material its growth is almost imperceptible. It grows very slowly, does not liquefy gelatin, and occasionally some of the larger ones are stained at the two poles by the aniline dyes employed, leaving the centre almost clear.

5. The Staphylococcus cereus albus (Passet, *l. c.*), found in pus, is a micrococcus of irregular size, occurring in masses or occasionally in chains; it grows on plate-cultures with nutrient gelatin as white points one to two millimetres broad. In gelatin the surface of the colony is grayish white, with thick stearin-like drops along the needle-track. On potatoes there is a grayish-white colony of medium thickness, and on blood-serum a grayish-white dull streak. It does not liquefy gelatin.

6. The Staphylococcus cereus flavus (Passet, *l. c.*) is exactly like the preceding, except that it produces a lemon-yellow color somewhat darker than that of the Staphylococcus pyogenes citreus previously described. It is of very rare occurrence.

7. Bacillus saprogenes No. I. (Rosenbach, *l. c.*) is a rather large bacillus containing prominent spores, found by Rosenbach in the white plugs of the follicles of the tonsils. On agar-agar the colony appears as a yellowish-gray, opaque streak, about one millimetre thick, of cheesy, sticky consistency, with irregular edges after some time, and after four or five weeks a foul smell like that of sour cake. It is of very slow growth, produces large spores, and gives out an intensely foul odor when free access of air is allowed; when air is excluded the growth is retarded and the foul smell is delayed in making its appearance. Inoculation into the knee-joint of a rabbit gave a negative result.

8. The Bacillus saprogenes No. II. (Rosenbach, *l. c.*), found in the material from foul-smelling feet, is somewhat smaller than the preceding, and after twenty to twenty-four hours the colony on agar-agar appears as numerous fine points, which enlarge and coalesce, and form first an irregular clear, and then opaque, tough, slimy layer. The smell is that of foul feet. It grows very rapidly, is aërobic and also facultatively anaërobic, and gives its characteristic odor much more quickly by the free access of air than when this condition is wanting. It seems to have mild invasive and pyogenic properties.

9. Bacillus saprogenes No. III. (Rosenbach, *l. c.*), found in the pus of septic gangrene, on agar-agar after eight days at summer temperature, appears as a colony three millimetres broad, of an ash-gray color, not sticky, but of an almost fluid consistency, with a rounded contour. It grows with medium rapidity, reaching its maximum in eight days. There is very rapid fouling of albumen with free access of air; without this the process is slower.

All culture-media except milk produce this foul smell in the presence of this organism. After injection, either subcutaneously or into the joints of a rabbit, there occurred a yellowish-green infiltration with a surrounding redness, as well as the characteristic foul smell.

10. Bacillus pyogenes fœtidus (Passet, *l. c.*) was found in abscesses about the anus, and consists of short staffs with rounded ends, often occurring two or more together, with an average length of 1.45 μ, and a breadth of 0.58 μ. It has slight motion. Plate-cultures in gelatin show after twenty-four hours white points, later becoming grayish-white. Magnified twenty diameters, the colonies appear thick and white in their centres and thick and gray at the edges. In gelatin in tubes, after twenty-four hours there is a soft, grayish-white, slimy layer on the surface, with rather thick, irregular edges. The needle-track is softened at first, and later presents large and small points all along it. Old cultures cloud the gelatin at the upper portions. On potato there is a glistening luxurious growth of a clear brown color; on blood-serum, a thick grayish-white streak. It grows rapidly, and does not liquefy nutrient gelatin. Subcutaneous injections and those into the abdominal cavity produce death in guinea-pigs and mice after twenty-four hours. The bacilli are found in the blood, but not at the point of inoculation nor in the organs.

11. Streptococcus pyogenes (Rosenbach, *l. c.*) was found in the pus of an erysipelas-like process. It is a micrococcus occurring in chains of from two to thirty, and of from 0.58 to 0.73 μ in diameter. On plate-cultures in gelatin it produces fine round granular points. In a streak of the needle the culture is thickest at the middle, of a light brown color; its contour becomes thicker, swells up, and finally assumes a terraced form. Needle-punctures in gelatin show a delicate layer around the entrance of the needle, the needle-track itself presenting fine points of growth, at first very sparse, but later larger and much more numerous. In agar-agar at 35° to 37° C. there is a string-like, grayish-white line with points all along it, and no surface-layer. On cooked potato it does not grow well. On blood-serum it grows along the needle-track as a thin, string-like colony. It grows best at 35° to 37° C., much more slowly at summer temperature. It grows slowly, the colony being but two to three millimetres broad after two or three weeks in surface-culture. After four months the culture is almost dead. It may be renewed in fresh nutrient material. It will decompose albumen in a vacuum, does not liquefy gelatin, and upon inoculation in animals produces a very severe spreading, erysipelas-like suppuration.

12. Streptococcus erysipelatis (Fehleisen, "Die Aetiologie des Erysipelas"), found in the lymph-channels during erysipelas, is a small micrococcus occurring in pairs or in chains, especially upon cultivation in bouillon, of about 0.3 to 0.4 μ in diameter. On plate-cultures with gelatin it occurs in fine round granular colonies. Needle-cultures in gelatin after twenty-four hours show very fine white points or flecks the length of the needle-track, which later become a homogeneous white streak. There is either no, or very slight, growth upon the surface of the gelatin around the point of entrance of the needle. In agar-agar it grows very sparsely over the whole surface, in small, almost imperceptible colonies. On blood-serum at 37° C. the colony is almost exactly of the color and nearly indistinguishable from the serum itself. It develops best at from 20° to 30° C., grows slowly, and produces in rabbits a sharply-defined, spreading redness, without suppuration. It always occurs in the lymph-channels of the skin in erysipelas. It has been tried in a number of cases on man, and in these produced a typical erysipelas.

13. Bacillus pyocyaneus (Gerrard, "De la Pyocyanie et de son Microbe," 1882), found in green pus, is a short, fine rod, very likely to be mistaken for a micrococcus. In plate-cultures with nutrient gelatin, after two or three days the whole of the plate has a clear green tint, the colonies liquefying the gelatin in a funnel-shaped depression. Under a low power, the colonies appear round, somewhat yellowish, and glistening with clear granular edges.

Needle-cultures in gelatin after twenty-four hours liquefy the upper layer of the gelatin in a funnel-shaped depression, with a fluorescent coloring of the upper portion. The liquefaction later extends out to the side of the test-tube, and the whole of the gelatin takes on this clear fluorescent appearance. In agar-agar there is a moist greenish-white colony, whilst the

whole of the agar-agar is colored with a diffuse fluorescence. On potato dry colonies of a rust-brown color appear, which turn green with ammonia and red with acids. It grows rapidly; will not grow under mica (glimmerplatte), and liquefies nutrient gelatin. Guinea-pigs die after cultures of this organism have been injected into the abdominal cavity (Koch). Rabbits survive its injection into the blood-current.

14. Pneumoniacoccus-like bacillus (Pneumokokken ähnlicher Bacillus, Passet), an organism found in pus, occurring as micrococci,—very rarely as short staffs,—in contradistinction to the pneumoniacoccus of Friedländer, which very often has this form. On plate-cultures small grayish-white nodules appear, made up of the cocci. Needle-cultures in gelatin show after twenty-four hours a grayish-white hemispherical nodule on the surface, with no growth in the body of the nutrient soil. After three or four weeks there appears a brownish color in the gelatin, and a foul odor. On potato, at 37° C., there is a thick, soft, whitish, glistening layer, with no gas-production. Its growth is rapid, it produces no gas, and does not liquefy gelatin. Injected into serous cavities it produces a suppurative process, but has almost no effect after subcutaneous inoculation. It has no result at all in inhalation-experiments.

This summary includes all the organisms which have yet been described with a sufficient degree of accuracy to permit of their classification, and which have been found in the purulent or inflammatory processes in man. It is made up from the work of the various observers spoken of in the earlier part of the paper, and is based upon the excellent tables of Dr. Eisenberg. It does not, of course, include those organisms described by Koch in his "Wundinfektionskrankheiten," because they were connected solely with the lower animals by that observer. The summary gives us, however, a very comprehensive view of the work that has already been done, and of the number of organisms which have already been found in the various suppurative and inflammatory processes occurring in man. Unquestionably the subject is not yet exhausted, and additions to the list may very probably be made.

I have been interested in examining such cases as I could gain access to of graver forms of the suppurative process than simple acute abscesses and the like. These latter have been investigated in such numbers by the observers already alluded to—Rosenbach, Krause, Passet—that it hardly seemed worth while to go over exactly the same ground again in the same way. I have selected therefore, so far as was possible, severe cases of long standing and those where there had been no access to the air previous to the time of examination. Cases of this sort, fulfilling all the indications required, are not especially easy to find, and my thanks are due to Drs. J. C. Warren and E. H. Bradford for the material which they have placed at my disposal.

In chronological order the cases which I have examined are as follows:

I. Cultivations were made from an abscess of slow growth occurring at the seat of an ununited fracture of the left humerus of over a year's standing. No external injury to the parts was apparent, and there was no opening until the incision was made through which the pus was obtained for cultivation. Cultures were made from the pus which flowed out and from the wall of the abscess. Colonies of the Staphylococcus aureus and albus made their appearance upon the nutrient material in the course of a few days, were separated from each other, and carried through a number of generations. This case is interesting because the diagnosis of tuberculosis was made from the clinical symptoms, but a very careful examination of cover-glass preparations of the pus and of scrapings from the wall failed to show any indication of tuberculosis either in the way of giant-cells or of the bacilli of tuberculosis.

II. A large perinephritic abscess of several weeks' duration. Cultivations made from the pus and from the abscess-wall showed the presence of the Staphylococcus aureus and albus, which were separated and grown for some time. The case terminated fatally from pyæmia, and micrococci corresponding to those in the cultivations were found in microscopic preparations of the valves of the heart, in the kidney, spleen, and blood.

III. A skin-disease of the knee in a girl of 20, of some years' standing. An incision was made through the growth, a

flap turned back, and cultivations made from beneath this by scraping the needle over the surface. The colonies which made their appearance were the Staphylococcus citreus and albus, which also were separated and carried through a number of generations. Sections were made of a portion of the diseased skin of the knee which had been put into absolute alcohol at once after removal. Micrococci corresponding in size to those in the cultures were found in large numbers just below the layer of flat epithelium, with colonies running down at frequent intervals between the cells into the deeper layers of the skin. The microscopic appearances in gross showed the presence of giant-cells and granulation-tissue, with some proliferation of the epithelial cells into the deeper parts with a few clusters of epithelial cells. The most careful search through a number of sections, by Dr. W. F. Whitney and myself, failed to show the bacilli of tuberculosis.

IV. Perinephritic abscess of several weeks' duration, with a small opening which was only a few hours old. The abscess was opened by an incision through the skin made upon the opposite side of the body from this sinus, and cultivations were made upon agar-agar from the pus thus obtained. Pure cultures of the Staphylococcus aureus made their appearance in the course of a few days.

V. Erysipelas of the foot four days old surrounding a penetrating wound. An incision through the skin at a point just beyond the line of redness was made, and cultivations were sown with a platinum-needle from over the bottom of the wound. A pure culture of the Erysipelas coccus was obtained.

VI. Cultivations were obtained from the material in the vagina of a case of vaginal diphtheria after parturition at the Boston Lying-in Hospital, through the kindness of Dr. W. L. Richardson. There appeared, in the course of a few days, colonies of the Staphylococcus albus, and of the Bacillus pyogenes fœtidus,—the latter of which I had hoped to be the first to describe, but which will be seen, by the preceding mention of it, to be credited to Passet.

VII. A case of vaginal diphtheria occurring under the same circumstances as the preceding. Cultivations made in the same manner were productive of colonies of the Staphylococcus albus only. The case was almost convalescent at the time the examination was made.

VIII. A third case of vaginal diphtheria under like conditions as the two preceding, with the exception that there was a considerable amount of pus present in the vagina. This patient was also convalescent. The culture-tubes showed the presence of the Staphylococcus aureus and albus, and of the Bacillus pyogenes fœtidus. There was also present a bacillus resembling the Bacillus subtilis, which was probably due to some contamination occurring during the manipulations.

IX. A case of psoas abscess in a child; a large amount of pus. Opened under carbolic spray and cultivations made from the pus and from the abscess-wall. The result showed a very free growth of the Staphylococcus albus only.

X. A case of hip-disease in a child, with a profuse suppuration about the hip-joint. Cultivations made from the pus as it flowed from the incision and from the joint itself showed the presence of the Staphylococcus aureus and albus. The latter—Staphylococcus albus—was much the most prominent, Staphylococcus aureus appearing in only one tube out of ten in which cultivations were made.

XI. A case of hip-disease in a child, with sinus which had been open for some time. In this case cultivations were made from a fresh opening made to secure drainage, and a free development of the Staphylococcus aureus and albus, and of a fine oval bacillus with no pathogenic properties, was obtained; the latter was probably the so-called Bacterium termo. The Streptococcus pyogenes was also found in this case, making four in all which were obtained.

XII. A case of glanders in the human subject. The body was covered with a large number of pustules, three or four of which were opened and cultivations upon agar-agar and in gelatin were made, the point at issue being to discover whether any of the ordinary forms of bacteria present in pus would be found in this case. As a result, colonies of the Staphylococcus aureus and albus were obtained, as well as two or three colonies of a fine bacillus answering the description of the organism found in this affection by Gaffky.

XIII. A case of lumbar abscess, with possible caries. Cultivations made from

the pus flowing out after incision of the abscess resulted in the development in a few days of a number of elevated, glistening, yellowish colonies, which, upon microscopic examination, were found to be made up of pure cultures of very fine, short, straight bacilli.

XIV. Psoas abscess in a child. Cultivations from the pus obtained in this case showed the presence of the Staphylococcus cereus flavus of Passet, so called, and of the Staphylococcus aureus.

XV. Psoas abscess in a child. Cultivations from the pus of this case gave, as a result, colonies of the Staphylococcus albus, and of a bacterium of which a more detailed description will be given farther on.

XVI. A case of abscess of the arm in a man. There was extensive purulent infiltration over the region of the shoulder and upper arm, extending into the left side, and penetrating into and between the various muscles of the affected parts. A number of cultivations were made with the pus as it flowed out from the freshly-opened wounds, and in the course of a few days very beautiful colonies of the Streptococcus pyogenes were obtained.

XVII. Abscess of the back following caries of the spine, which had existed for some time. The abscess was apparently the size of the fist, of rapid growth, and was situated in the right lumbar region very near the spine. Cultures were made from this case as before, from the pus flowing from a freshly-made incision. After a time, slowly-developing colonies of the Micrococcus pyogenes tenuis were seen to make their appearance, together with colonies of the Staphylococcus pyogenes albus.

XVIII. A case of bubon d'emblée. The swelling was of slow growth, and absolutely no history of venereal infection could be obtained. There were signs of pulmonary solidification, however, and the question as to whether the swelling in the groin might be of tuberculous origin or not became of interest. Upon incision into the tumor, a thick, dark pus was forced out, and cultivations were made, which, in the course of a week, produced colonies of the Staphylococcus pyogenes albus and of the Micrococcus pyogenes tenuis. Two of the glands which were enlarged to the size of marbles were placed in absolute alcohol, and upon several subsequent occasions sections were stained and examined with the greatest care for the presence of bacillus of tuberculosis; the results of such examinations were in all cases negative.

This completes the list of the cases which I have examined. It is not an extensive one, and was purposely, so far as possible, limited to the more chronic processes, and to those where there was and had been no access to the air until the moment of time during which the cultivations were completed. It is, however, important to observe that in every case examined one or more forms of bacterial life were developed upon the nutrient material, and therefore that, so far as these observations go, they tend to refute the assertion that bacteria are not present in the more chronic forms of purulent disease. It is true that they may not be discovered by simple microscopic examination of the fresh pus, but this does not prove that they are not present. Their numbers may be so small that a few cover-glass preparations made up from only a portion of a drop of the pus might easily fail to reveal their presence. Cultivations, however, offer a means for their development, and the presence of but one or two bacteria may be demonstrated in this way in cases where they might be overlooked if any other method of investigation were employed.

In all the cases that I have reported the mode of procedure was as follows,—except, of course, in the diphtheritic vaginæ, where there was necessarily more or less free access to the air. After anæsthesia was complete, the skin over the point selected for the incision was thoroughly washed in a solution of corrosive sublimate, one to one thousand; the surgeon's hands were sterilized in the same solution. The incision was made with a knife freshly removed from the same solution, and as soon as the pus-containing cavity was opened, a platinum needle taken from the flame of an alcohol-lamp was plunged into it, and test-tubes containing nutrient gelatin and nutrient agar-agar were inoculated with the material obtained. The tubes were then removed to the laboratory, and in some cases plate-cultures were made at once, and in others not until twenty-four hours afterwards. A number of the tubes were also placed in the incubator at 37° C., and the conditions of development were observed under these circumstances. Every

one of the bacteria obtained was identified by means of its microscopic appearances, and its behavior under cultivation in various nutrient media on plate-cultures with nutrient gelatin, on agar-agar, etc., so that no name is given to any of the organisms found in the cases reported without a sufficient basis of careful observation. A large number of the bacteria were propagated through from fifteen to twenty generations, and were found to preserve their properties under cultivation during the whole of the time they were under observation, extending from six months to over a year. Owing to my absence abroad during last fall and an unfortunate mistake in regard to the time of my return, a number of the cultures were lost through drying. By this I do not mean that all of any one variety were lost, but that about one-half of the collection I had made from different cases were destroyed. This was to be regretted, because I had kept every bacterium from every case separate, and had carried each one through a long number of cultivations, extending over a great length of time, with a view to the determination of differences, if any existed, in the pathogenic powers of micro-organisms from different cases, but of the same apparent nature, as shown by their appearances under varying conditions of cultivation. This point the accident which I speak of prevented me from investigating, although the results obtained by other authors seem to indicate that there is no such difference as had seemed to me possible when I began this research; and the fact seems to be established that the differences in the pathological changes produced by what we must call the same bacteria are the result of influences other than those peculiar to the bacteria themselves, such as changes of nutrition and method of infection. It is to such differences as these that the varying clinical results produced by the Staphylococcus pyogenes aureus, as seen in osteomyelitis and acute abscesses, must be ascribed; for it seems to be fairly well established that the organisms producing the first and part of the latter processes are identical. The methods of Koch—including of course the employment of solid culture-media—have been used in all cases, as being conducive to greater precision and more definite results than any others that are known. This is especially the case in such an investigation as the present one, for without these methods the differentiation of the various bacteria in the pus-producing processes would be practically impossible.

(To be continued.)

REPORT ON THE PROGRESS OF MEDICINE AND GENERAL PATHOLOGY.

BY J. C. WILSON, M.D.,

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HAMMER-MAN'S CRAMP.

G. V. POORE, in a recent clinical lecture at the University College Hospital (*Lancet*, August 21, 1886), calls attention to an unusual form of handicraft disease.

The patient, a previously-healthy nail-maker, 25 years old, somewhat addicted to alcohol, and working for long hours at "piece-work" in forging nails with a moderately light hammer, suddenly lost the power to direct the blow accurately, and in the course of a few months suffered so much from inability to wield his hammer and jerking of his right arm when attempting to do so that he was obliged to abandon all attempts at work. Six months later, after treatment, the circulatory, respiratory, digestive, and genito-urinary systems presented no abnormalities of any kind; the temperature was normal, but the pulse rather infrequent,—62 on one occasion, 52 on another. As regards the nervous system, examination of the patient shows his intelligence to be good; the special senses are normal; no headache; the third, fourth, fifth, and sixth cranial nerves apparently normal; the right naso-labial fossa rather less marked than the left; the mouth droops a little on the right side when at rest, and moves a little less vigorously than on the left side; the right upper limb is seldom or never quite still; when sitting up, with the arms hanging by the side, the right arm is the seat of constant slight movements,—elevation and adduction of the humerus and flexion of the elbow. Upon attempts at voluntary movement the spasmodic action of the muscles of the arm is increased, and extends to the deltoid, trapezius, and pectoral muscles. Attempts to use the hammer greatly intensify the spasms and render analysis of the muscle-faults impossible; ordinarily the arm is held

fixed to the side, the wrist is extended, the hand supinated and closed. There is nothing wrong with the lower limbs, except that plantar reflex is more marked on the right side than on the left. Sensation is everywhere normal; the patient is free from pain; attempts at movement are followed by a sense of fatigue and some aching; none of the nerve-trunks are in the least tender. It is evident that the spasm is not now special to the performance of the patient's professional act of hammering: it interferes with the accuracy of all voluntary movements of the right hand, and is noticeable to some extent when he is making no voluntary movement.

This case is of interest not only because of its rarity, but also on account of its difference from—rather than its resemblance to—other forms of handicraft disorders of the nervous system, and especially writer's cramp.*

The sudden onset, with the evidence of slight failure of the right side of the face and right half of the tongue and the exaggerated plantar reflex of the right foot, makes it highly probable that the lesion, whatever it may be, would be found in the motor area of the cerebral cortex on the left side, and that the motor affection is part of a slight hemiplegia. In this connection it is of interest to note that Frank Smith, of Sheffield, has placed upon record eight cases, analogous to the present one, under the name of "hephæstic hemiplegia, or hammer palsy" (*Ἡφαιστος*, Vulcan). Of these eight cases, six were distinctly hemiplegic in character, while two were cases of brachial monoplegia.

The author expresses the belief that the physical basis of the trouble in the case under discussion will be found in thrombosis of the ascending frontal branch of the Sylvian artery. Treatment for several months had been without result, and the prognosis was not good.

These cases extend the limits of the so-called professional nervous diseases, and point to actual cerebral lesions which may arise from over-use of nervous centres. It is probable that constantly-repeated movements that are not really automatic, but require a constant effort of the attention, are more liable than others to produce central derangements.

* [This relation has been recently considered in a paper by the editor of this journal, published in the *Annals of Hygiene* for October.—Ed.]

CLINICAL OBSERVATIONS ON THE ACTION OF ANTIPYRIN AND THALLIN IN ACUTE RHEUMATISM AND PHTHISIS.

R. Johnson (*Lancet*, August 28, 1886) contributes the result of a limited number of observations upon the action of these drugs. The clinical observations were made at the suggestion of Ringer, who had pointed out the fact that the temperature in acute articular rheumatism is often highest immediately after the admission of the case to the hospital, and usually undergoes a considerable fall, sometimes as much as a degree or even two degrees F., in consequence of the complete rest in bed. To escape the possible error due to this action of rest, no medicine, or at most a placebo only, was administered for the first twelve or twenty-four hours. Antipyrin in twenty-grain doses or thallin in one- or two-grain doses was then given at short intervals. In those cases in which the influence of these drugs did not appear to be beneficial, they were superseded by sodium salicylate. Johnson's experience corresponds with that of Dujardin-Beaumetz, that antipyrin in acute rheumatism reduces the fever but does not materially affect the joint-symptoms. This conclusion is at variance with that of many observers, including Neumann and Pribram, who have considered this drug equal to the salicylate in rheumatic fever. With regard to thallin, the general opinion of those who have employed it appears to be that it compares very unfavorably with sodium salicylate in the treatment of acute rheumatism. This view is confirmed by Johnson. He also regards thallin, notwithstanding slight advantages such as rapidity of action, as very inferior to antipyrin in its effect upon the temperature in this disease. He concludes that sodium salicylate "remains *par excellence* the cure for acute rheumatism, but that antipyrin may be useful in those rare cases in which the salicylate fails to exert its apparently specific action on the disease."

In phthisis the effects of antipyrin, in doses of fifteen grains given every four hours, or thrice daily, according to the requirements of the case, are very variable. In some it simply lowers the temperature without improving the general condition of the patient or retarding the course of the disease, whilst in others it is of great benefit,—lowering the temperature, lessening the night-sweats, and improving the

nutrition. On the other hand, the use of thallin in phthisis was followed by no appreciable benefit. Its almost constant effect on the temperature was to greatly increase the daily variations, the minimum temperature being often lowered by as much as 2° F., whilst the maximum remained the same. Each fall of temperature produced by thallin was accompanied by sweating, and the following rise was frequently attended by shivering and in many cases by distinct rigors.

The most important difference in these two drugs, as shown by almost all the cases in which they were used, is in the duration of their effects. The lowering of temperature brought about by antipyrin lasts usually (in these diseases) for many hours; the rise is gradual, and occupies several hours. Thallin, on the contrary, produces a very transitory effect, the rise often beginning within two hours after stopping the drug, being as a rule rapid and attended by shivering. The influence of antipyrin and thallin upon the pulse and respiration was slight.

Johnson calls attention to the following among the toxic effects of these drugs. Nausea and vomiting are not rarely produced by antipyrin in full doses, seldom by thallin. In a case of phthisis, prostration of a marked character followed the administration of antipyrin in three doses of ten, twenty, and twenty grains respectively, and again in a boy to whom three fifteen-grain doses were given at intervals of an hour. In no case did thallin occasion any prostration. Antipyrin is more apt to be followed by profuse sweating than thallin; thallin produces shivering and rigors with considerable frequency, while these effects have rarely followed the administration of antipyrin. The exanthematous eruption first described by Ernest, of Zurich, as occasioned by antipyrin is by no means rare; it consists of small rosy-red spots over the chest and abdomen, and to a less extent on the limbs. The rash may be confined to the face and neck, and then closely resembles that of scarlet fever; it is transient, usually fading gradually in the course of one or more hours. Thallin in rare instances causes a similar rash. During the administration of thallin the urine assumes a dark-green color and emits a strong odor of the drug; this effect rapidly disappears after the drug is stopped. This condition of the urine is of constant occurrence, and closely resembles that so often seen in the surgical wards from the absorption of carbolic acid.

TRANSFUSION AND INFUSION.

Dr. A. Landerer (*Virchow's Archiv*, August 3, 1886) discusses at length the present state of knowledge in the matter of the treatment of blood-losses jeopardizing life, profound anæmia from other causes, and certain forms of poisoning. His conclusions are based upon the now well-recognized dangers attending the transfusion either of blood or of serum, the inadequacy of salt-solutions, and the efficiency of a mixed solution of salt and sugar. His experimental investigations in regard to the latter solution were conducted in the Physiological Laboratory in Leipsic, under the supervision of Professor Ludwig and Dr. Gaule.

The dangers attending the transfusion of blood are illustrated by two cases observed by the author in the surgical clinic. The first of these was that of an eight-year-old boy reduced to the last degree of anæmia in consequence of paralysis of the muscles of deglutition following diphtheria. The details of the operation were carried out with the utmost care in accordance with the accepted rules of procedure. After thirty cubic centimetres of thoroughly defibrinated and filtered blood had been thrown into the left median vein, gasping respiration and facial spasm were followed by sudden death. At the post-mortem examination, the pulmonary artery was filled with fresh clots.

The second case was that of a young woman suffering with acute anæmia. Here peritoneal transfusion (Ponfick) was performed with full antiseptic precautions, three hundred cubic centimetres of blood being introduced. The patient died of foudroyant peritonitis in forty-eight hours.

The investigations of Alexander Schmidt, Cramer, Edelberg, and others have shown that these accidents are due to the development in the drawn blood of fibrin-ferment, which despite the most careful defibrination is occasionally the cause of fatal change in the blood of the organism into which it is introduced. That this change only occasionally occurs does not militate against the objections to transfusion, because in any given instance it can neither be foreseen nor prevented.

Since Goltz has shown that the imme-

diate cause of death in blood-loss is not, as formerly thought, dependent upon loss of hæmoglobin and its result, the deprivation of oxygen, but rather that it is dependent upon certain mechanical conditions, especially a derangement of the relations between the capacity of the blood-vessels and their contents and incomplete filling of the heart with blood, the introduction of some indifferent fluid not injurious to the blood itself, in order to fill the vascular system, became the controlling indication.

For this purpose the 0.6 per cent. alkaline solution of common salt (Kronecker and Sander*) has been regarded as possessing the necessary qualities. In fact, as von Ott demonstrated, animals thus treated after severe bleedings make a better convalescence and repair the loss of red corpuscles and other blood-constituents more rapidly than those in which transfusion with whole or defibrinated blood has been performed.

Furthermore, the transfusion of blood was, even under the most favorable circumstances, followed in almost all cases by fever of longer or shorter duration, usually ushered in by rigors, great mental and physical depression, præcordial distress, frequently by intestinal disturbance, and occasionally by exanthems,—symptoms of the "fibrin-ferment intoxication" of Edelberg.

Efforts to prevent the excessive formation of fibrin-ferments by changes in the methods of defibrinating the blood, as by agitating it with broken charcoal, glass beads, etc., have been without result, nor have attempts to prevent clotting by the admixture of the blood with other fluids led to any practical result.

The author regards with disfavor attempts to prevent coagulation by any admixture of peptone.

A very simple method, yet one not wholly free from objection, consists in a combination of blood-transfusion with the infusion of the solution of salt. This expedient meets one of the objections to the transfusion of blood: namely, that the volume of fluid introduced is frequently too small to correct the mechanical disturbance between the capacity of the vessels and their contents. The admixture of two to three hundred cubic centimetres of blood with seven to eight hundred cubic centimetres of 0.6 per cent. salt-solution affords sufficient fluid on the one hand and reduces the danger of poisoning by fibrin-ferments. This method of "mixed transfusion" will probably be preferred as less dangerous by those who cannot abandon the view that transfusion is the rational procedure.

The use of various forms of serum is not without risk, seeing that they all, with the single exception of horse-serum, contain more or less ferment. Serum is not practical for the further reason that its preparation is too difficult and tedious.

Other fluids containing nutritive substances, as for example milk, have been found to be attended by direct dangers.

Much can also be said against the infusion of salt-solution. In cases of poisoning in which transfusion is required, salt-solutions would be clearly inadequate. In fact, the use to replace lost blood of a fluid which is scarcely more than water, without value in nutrition or force, must be looked upon as at best an unsatisfactory and imperfect procedure. This objection—that such a solution acts merely mechanically—is a serious one. In the words of Landerer, "It is as if one were to offer a hungry man a stone instead of bread." Furthermore, it has not been followed in a large number of cases, especially where there has been large blood-loss, with the hoped-for result. Nevertheless, we have in salt-solution probably hit upon a basis by means of which, with proper additions and modifications, a transfusion-fluid meeting the various indications for transfusion under all circumstances may be made up.

The requirements of such a fluid are as follows:

1. It must be absolutely without danger in itself.

2. It must be readily obtainable under all circumstances, so that in case of necessity it may be procured at once.

3. It must contain the greatest available amount of assimilable substances capable of sustaining animal heat and the powers of the organism.

4. It should be of the simplest possible chemical constitution.

The author believes that in a combination of the alkaline salt-solution (0.6 per cent.) with a solution of sugar (one to three per cent.) we have a fluid which fulfils all these requirements.

* Berlin. Klin. Wochenschr., 1879, No. 52.

The conclusions of the author are as follows:

1. Blood-transfusion is dangerous and useless.

2. The infusion of a solution of common salt does not in really severe blood-loss (more than four and a half per cent.) by any means insure a favorable result.

3. A combined solution of salt and sugar is preferable, because (*a*) it favors and accelerates the natural tendency of the organism to readjustment by favoring the transudation of fluid from the tissues to the interior of the blood-vessels; (*b*) it affords the organism a light and quickly-assimilable nutrient material; (*c*) it more closely resembles the blood in density than the solution of common salt; (*d*) it raises the blood-pressure.

4. The combined solution of salt and sugar may be of use in poisoning by nitrobenzol, chloral hydrate, chloroform, carbon dioxide, etc.

5. In cases of loss of the watery portions of the blood alone, as in cholera, the salt-solution may be more available than the combined salt and sugar solution.

THE HEREDITARY TRANSMISSION OF PARASITIC ORGANISMS.

Professor Max Wolff (*Virchow's Archiv*, July 3, 1886) communicates the result of a series of researches in this connection which he has been conducting since 1884 in the Pathological Institute at Berlin. His conclusions are at variance with those of Koubassoff, who reported that, after injecting pus containing tubercle-bacilli, milzbrand bacilli, the bacilli of malignant œdema, etc., beneath the skin of gravid guinea-pigs and rabbits, he discovered these microbes in the internal organs of the fœtus, and frequently in great numbers. According to this statement, the transmission of the microbes to the fœtus and its infection from the mother would be of very common occurrence.

To this view Wolff by no means accedes. On the contrary, his researches lead him to regard the conditions as by no means favorable to this mode of infection.

1. The first series of experiments were made with milzbrand (anthrax) bacilli. Six animals were inoculated, and died of exquisitely developed milzbrand, with abundant bacilli in all the organs. With the seventeen fœtuses examined the case was wholly different. Microscopical examination of sections from the thoracic and abdominal organs, both with double staining by the method of Gram and without it, and one hundred cultures of material from the liver, spleen, kidneys, and lungs, gave absolutely negative results.

As a further means of control, thirteen young animals were subcutaneously inoculated with fragments of the organs of these fœtuses. Of these two only died of milzbrand; the rest were kept many weeks under observation and remained free from the disease. The author thinks that it is almost certain that the two animals that contracted it were accidentally infected in the laboratory. Both the inoculation and culture experiments were carried out with the most rigorous care. The placental and other intra-uterine structures, as well as the fœtus, remained in all cases free from the lesions of milzbrand.

Wolff concludes that the question of the transmission of the bacilli of milzbrand from the mother to the fœtus is by no means settled in "a positive and constant sense," as Koubassoff, in the communication laid before the Paris Academy by Pasteur, assumed.

2. A second series of investigations were conducted with vaccine. Women were successfully vaccinated towards the end of pregnancy. Two or three days after birth the children of these women were vaccinated, with a perfect result in every case. Uniformly positive results—the details of which are to be published hereafter—proved that the vaccine-contagion had not reached the fœtal circulation; that infection of the fœtus through the mother does not take place in vaccinia any more than it does in milzbrand. It is certainly true that the transmission of variola from the mother to the fœtus does occasionally take place; but well-authenticated instances of the children of mothers suffering from smallpox coming into the world with the eruption are extremely rare.

3. The third series of experiments were conducted with a view of solving the question of the parasitic transmission of tuberculosis. This investigation was carried out in two directions. First, a number of animals already gravid were inoculated with material containing tubercle-bacilli. Secondly, another group was inoculated prior to conception, in order to test the possibility of a bacillary infection of the ovum. The author's researches are not yet con-

cluded; but so far as they go the results are not favorable to the view of the direct parasitic heredity of tuberculosis. To the naked eye no one of forty-two fœtuses exhibited signs of tuberculosis, even where the mother died of exquisite diffuse tuberculosis.

In the human being, tuberculosis of the fœtus and new-born child must be of the most extreme infrequency. Wolff does not deny the occurrence of (parasitic) hereditary tuberculosis, but regards it as extremely infrequent, and looks upon many of the cases of tuberculosis in the new-born as due to direct post-partum infection rather than to intra-uterine transmission. This appears more probable when we reflect upon the great number of risks of infection from their tuberculous parents to which new-born children are exposed. Among them are all manner of modes by which the bacilli-containing sputa may be brought into contact with lesions of the mucous membranes and cutaneous surfaces of the infant.

THE MEDICAL PROFESSION AND PROPRIETARY QUACKERY.

BY SAMUEL S. WALLIAN, A.M., M.D.,
New York.

INCOMPLETE statistics show that the money expended by the people of the United States for secret and proprietary medical preparations aggregates annually more than eighty millions of dollars. When the reasonable statement is added that certainly more than one-half of these exploited remedies are positively detrimental rather than beneficial to their consumers, the subject becomes fairly tragic. Compared with this insidiously-growing evil, war and intemperance are made to seem less formidable calamities.

Limned in detail, the picture would be ludicrous if it were not in its results so fatal as to be actually appalling. For this unsatisfactory state of things there is no specific or easily-suggestible remedy. It may be assumed that ignorance is at the bottom of it, but it is inborn and transmitted ignorance. Generations back of us have contributed towards endowing us with a mania for dosing. The new-born babe takes to its castor oil and saffron as though it had been accustomed to a diet of oleaginous laxatives and other nauseants in some pre-natal state.

It is easy to say, "Educate the community;" but to eradicate a habit at once so pernicious, so wellnigh universal, and so chronic, would involve a disturbance of the very foundations of society. A discouraging feature is that in this connection the acknowledged exponents of the profession are not wholly without blame. See the long list of eminent names appended to unscrupulous panegyrics on one or another form of patent nostrum. See the page on page of popular journals illuminated with flaring cuts and endorsed by the titled names, in display-type, of prominent professors and college presidents, far and near,—all to the end of advertising numberless (sometimes, it may, be meritorious) proprietary preparations. Instance the baby foods. How glibly their proprietors proceed to prove, by authentic chemical analyses, the undoubted superiority of each of these preparations,—and some of them are really triumphs of science,—while their universal and sweeping sale everywhere, proves the sad fact that so many mothers nowadays suppress the maternal instinct, and forego nearly all the mother's dearest recompense, by making half-orphans of their cheated and helpless progeny!

Where shall reform begin? If any degree of success be hoped for, the teachers themselves must first be taught,—physicians must become better informed. In this direction every reputable member of the profession has his personal work, and should not shirk the responsibility. For instance, a prominent medical writer makes the inexcusable blunder of asserting that "the peroxide of hydrogen is simply water impregnated with an excess of oxygen;" whereas every student of chemistry in his first year has learned that the peroxide of hydrogen—more properly *hydrogen dioxide*—is not water at all, contains no free oxygen, but is a definite and distinct compound of oxygen and hydrogen, represented by the formula H_2O_2. Another, referring to the use of the same article as a topical application, says, "It may be used of *full strength;*" whereas peroxide of hydrogen of "full strength," or pure, would act upon tissues to which it might under such teaching be inadvertently applied, much as would the actual cautery.

If prominent professors and specialists trip thus in dealing with its outlines, how shall we wonder at the degree of ignorance exhibited by the average practitioner in relation to simple chemical manipulations? Many an otherwise well-schooled and well-read professional man is entirely at sea when it comes to technical symbols, and stands stupidly aghast before the simplest chemical equation.

Thus, for instance, he has an idea that to make oxygen gas is a difficult and dangerous feat; that some chemical is used which presumably liquefies at high heat; and that explosions are a matter of course, as well as frequent. His conception of the gas itself is that it is a stimulant to the functions, especially that of destructive metamorphosis; and that in some forms of asphyxia, as by carbon dioxide or by drowning, it would often be a desideratum. He scarcely distinguishes between the names oxygen and "compound oxygen," and perhaps vaguely imagines that the latter is a little more complex and expensive, and hence ought to be more efficient than the former. Beyond this rudimentary and indefinite knowledge he has had neither occasion nor inclination to inquire.

At the same time he is acutely sensible that numbers of his clients, induced by extravagant and ingenious advertising claims,—the manufacture of which is now a studied profession,—are wasting much money in openly or secretly procuring some of the many proprietary make-shifts variously paraded under the names of "Oxygen Treatment," "Compound Oxygen," etc. And, however well satisfied he may be that the preposterous claims made for these alluring but usually inert nostrums are unconscionable exaggerations,—not to use a harsher term,—he is at the same time painfully aware that a number of his more credulous patrons will forget his last season's bill in order to promptly remit, in advance, the exorbitant price charged for this most successful class of proprietary shams, put forth by conscienceless adventurers who have developed lying into a commercial science and made it almost respectable!

That the element oxygen has latterly established a claim to be recognized as a valuable therapeutic aid is quite generally conceded. That it has been retarded in its recognition by the charlatans who have counterfeited it is also equally clear. To obtain the remedy in a pure and reliable form, convenient for general use in the office and easy of transportation to the bedside, has been at once a desideratum and a difficulty. Notwithstanding these obstacles, within a few years its use by American physicians has increased a hundred-fold; and improved apparatus and better methods are gradually overcoming the numerous drawbacks to its still more general use. In New York City alone there are now several quite well patronized dépôts for furnishing the compressed gas to practitioners who prefer to procure their supply in this way, and thus save the time, labor, *and litter* involved in its manufacture.

With these increasing facilities the profession ought to be able to drive shoddy "oxygen" out of the market. Yet it is but one of a class, and that a very large class.

There are anti-tobacco societies, anti-liquor parties, even anti-adulteration journals; but there are no anti-nostrum associations. That there is a need for such has already been sufficiently set forth.

In this connection the profession as a whole must plead guilty of a dereliction of duty. There is no doubt but that by proper and persistent effort practitioners have it in their power to initiate a movement which would in time eventuate in wholesome changes in public opinion touching this vitally important subject.

Two things militate against any sweeping or sudden revolution in this direction: ignorance and tradition. But even these are not utterly incurable; and here permit a practical suggestion.

In these days of the rapid advance of ideas, every medical practitioner owes it to his patrons, his profession, and his conscience to antagonize three prevailing and mischievous delusions:

1. That it is economy to doctor one's self.

2. That any remedy can be good for every ailment.

3. That irregular and unlettered "doctors" who catch the public eye through advertising display owe their "unparalleled success" to the possession of chemical or other valuable secrets which are unknown to the regular profession, and unknown to chemists.

At the same time, and as complementary of the foregoing, he ought also to

inculcate a few wholesome and general precepts:

1. That to regain impaired health does not necessarily imply the use of drugs.

2. That in consulting a physician, a maximum of advice and a minimum of medicine is a consummation devoutly to be sought.

3. That the more intelligent people become, the less they assume the responsibility of deciding questions of which only a skilful medical man is competent to judge, the less they listen to the catch-penny claims of advertising charlatans, and the less money they pay out for preparations which are not ordered or vouched for by some one in whose sagacity they confide.

4. That those who decline the use of all remedies, except when prescribed by a competent physician, experience uniformly better health, expend less money at the druggist's, and suffer infinitely less from imaginary evils, than any other class.

When practitioners everywhere conclude to spend more time and effort in disseminating these and similarly axiomatic truths than in traducing competitors or wrangling over medical politics, there will be less money poured into the coffers of the wily patent-medicine sharks, less quackery both in and out of the profession, and the medical millennium will draw nigh.

491 West Twenty-Second Street.

NOTES OF HOSPITAL PRACTICE.

MEDICO-CHIRURGICAL COLLEGE, DEPARTMENT OF ORAL SURGERY.

CLINIC OF PROFESSOR GARRETSON.

EXSECTION OF SECOND BRANCH OF FIFTH NERVE AT FORAMEN ROTUNDUM.

THE patient was a lady from Oregon, suffering with neuralgia of several years' standing affecting the superior maxillary division of trifacial nerve. Remedies of every nature having been tried at the hands of some twenty different physicians, and several minor operations done at different Western hospitals, and the suffering having increased to such extent as to render it no longer endurable, the operation of excision of the nerve-trunk was proposed and gladly accepted.

On September 11 the patient was etherized and exposure was made of the anterior face of the antrum, the infraorbital nerve being dissected from the flap and caught by a bull-dog forceps. The immediately-succeeding step removed the boundary of the sinus, the surgical engine being used, while the burr, directed by the line of the nerve, quickly cut away the floor of the canal, and so permitted the branch to fall into the antrum.

Following this was the task of reaching the nerve, as it rests upon the floor of the orbit. Great care being exercised to clear the cavity of the sinus from clots of blood with which it too quickly filled, and a raspatory being used to scrape a line upon the antral roof, a dull burr was put in the place of the sharp one heretofore used, and the marked and rasped space was cut away to an extent which exposed nerve and eye-appendages. Here delay was made to show to the class at large the exposed nerve as it lay, white and shining, in the opened antrum, and could be moved about in all directions.

The final step of the operation—namely, entering the spheno-maxillary fissure—required the greatest attention and caution. The burr used was conical as to shape, fine and short as to blades, and was revolved to the extent of the power of the engine, some fifteen thousand revolutions to the minute. It being shown to the audience that absolute steadiness had been secured by means of the velocity, the antrum was again cleared of blood-clots and its posterior face made to define itself clearly in the sunlight. All being prepared in accordance with the mind and requirements of the operator, the burr was reintroduced into the cavity, and in a single moment the fissure was opened.

To insure the proper completion of so delicate and complicated a performance, the nerve was isolated and the round foramen defined by means of a delicate fenestrated probe, which, guided by the nerve it encircled, was pushed inward and upward until it struck the base of the skull. The nerve-trunk was then cut by means of a tenotome or fine curved bistoury.

This operation, perhaps one of the most delicate and least frequently attempted performances in surgery, has been thrice shown within a short time to his students by Professor Garretson.

On the third day after the operation a visit to the hospital showed the patient sitting up in a steamer-chair, chatting

comfortably with her nurse. The union of the external wound was already and perfectly accomplished by first intention. At the date of this writing, still three days later, a sponge, with which the eye was being insured against any possibility of prolapse, had not been removed.

SECTION OF SUPERIOR MAXILLA IN TREATMENT OF NEURALGIA.

The subject in this case was from Bermuda,—a lady, a private patient of Professor Garretson's, about 60 years of age. The neuralgia was persistent and severe, and of some twelve years' standing. Diagnosis as to position was arrived at through the process of exclusion. The seat of lesion was determined to be on the line of relation of the posterior and anterior dental nerves, where these lie at the base of the antrum.

The operation was performed by means of a circular saw, the lip and cheek being held out of the way and protected by means of retractors; the object being to remove all that portion of bone bounded in front by the symphysis, at the back by the tuberosity, above by the floor of the sinus, and below by the free ridge of the gum. This locality was mapped out by means of incisions reaching through the overlying soft parts to the bone. Following the incisions, and occupying the lines of the cuts, came the saw. It required scarcely an appreciable period of time for the operator to show the section in his hand to the class. The relief from pain was decided and immediate.

Nine minor cases were then shown and treated.

TRANSLATIONS.

Hydrofluoric Acid in Therapeutics.—In a recent thesis upon the therapeutic applications of hydrofluoric acid, Dr. Chevy submits the following conclusions:

1. The vapor of hydrofluoric acid mixed with atmospheric air does not produce in the respiration the accidents which hitherto have been attributed to it. It can be breathed without inconvenience in a mixture containing one to fifteen hundred parts.

2. Hydrofluoric acid is a powerful antiseptic and antiferment. A solution of one to three thousand is able to arrest fermentation in milk, urine, or soup, and to permit the preservation of meat.

3. The therapeutic employment of hydrofluoric acid against pulmonary tuberculosis, diphtheria, and in the dressing of unhealthy wounds appears to have furnished results worthy of being followed up.

4. If the diseased person be asthmatic, hæmophiliac, or emphysematous, this agent should be used with caution.

The method of disengaging the gas employed by the writer is to obtain it directly from fluor-spar contained in a leaden vessel, and the addition of sulphuric acid in excess. The diluted gas is to be inhaled cautiously; and where this had been done in several cases, the patients not only bore it well, but asked that it might be repeated.

Urinary Calculus in the Female Bladder.—Dr. Curtil gives the following as his conclusions (Paris Thesis, 1886) from a study of the subject of treatment of vesical calculus in women: (1) All things else being equal, we should always prefer a bloodless operation to a bloody one. (2) For a stone not larger than from two to three and a half centimetres we should resort to dilatation as the method of election. (3) In the case of a calculus which, although voluminous, yet is friable, in a patient whose bladder is tolerant and otherwise normal, we should select lithotrity, modified, when required, according to the necessities of the case. (4) In all other cases we should employ the hypogastric section.—*Revue de Thérapeutique Méd.-Chirurgique*, No. 16.

A New Microtome.—MM. Henneguy and Vignal showed at a recent meeting of the Paris Biological Society a modification of the Cambridge rocking microtome. In the original model it is necessary to count the notches in order to ascertain the thickness of the sections; also the direction of the embryo cannot be changed after it is fixed on the instrument. In the instrument modified by MM. Henneguy and Vignal, by the aid of an indicator moving along a graduated circle, controlled by the regulating piece, the thickness of the sections is at once ascertained. By means of a holder capable of being moved on three different axes, the pieces studied can be moved in any direction.

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EDITORIAL.

ON OBESITY.

"Oh that this too too solid flesh would melt!"

LIKE other maxims, "Laugh and grow fat" is part sound, part false. Little as we may suspect it, the advice is far from being of universal application. Its wisdom and beneficence depend wholly upon this point of view. It is all very well to laugh, but the growing fat is quite another thing. It would be well for some of us, if laughter bred fat, to take our pleasure sadly. For if the fat man be a merry man, he pays for his mirth by much discomfort and inconvenience. More than this, he is in the way of dangers that miss his lean and envious neighbors. These dangers are manifold and dire; but space forbids us to describe them, or even to enumerate them. And we are the more constrained to reticence on this subject lest we might in too free discourse add aught to the weight which our fat friends are compelled to bear.

"Where ignorance is bliss, 'tis folly to be wise." Here again a maxim that is less than half true. For we feel constrained to say in all seriousness that in many a case the greatest danger that can befall a fat man or woman is to catch the present fashionable craze and undertake to become lean. Some men—and women too, if for the truth's sake we might make so bold as to say it—are born to be fat. It runs in the blood and is a family failing. Others, having acquired fat by their personal efforts, wear it until it becomes second nature and their organs are accommodated to it. In both these sorts of persons obesity has grown to be a normal condition, inconvenient and uncomfortable, it is true, and, with advancing years, in itself attended by many dangers.

To reduce it in such cases as these to any considerable extent is always difficult, and often attended by risks of the most serious kind: all of which was already known to the ancients, and is spoken of by Hippocrates and Celsus. Bantingism is out of fashion, by reason of the evils which followed its improper use; the method of Ebstein is also out of favor,—tried in the balance and found wanting,—because of the persistent gastric derangements which it often causes. Schwenninger's plan was successful with that man of iron, Prince Bismarck, but its oft-repeated little meals—day-long nibblings—play hob with ordinary stomachs.

Finally, the method of Oertel has come to the front, and is just now so much in vogue in Germany that a single word has been invented to designate this particular *Entfettungs-Kur:* namely, the word *örteln.* The peculiarities of this method, which is well known through the publications of its originator, consist chiefly in a restricted diet without fat, a greatly restricted amount of fluid, and increased muscular activity, especially of such kind as increases the action of the heart. Rosenfeld, of Stuttgart, has quite recently called attention to the dangers which attend this "cure." These are of a very serious kind, and have in some instances narrated by this observer proved fatal. They relate to the kidneys, the heart, and the nervous system. Rosenfeld found albuminuria in eight of twenty-four cases, in all of which albumen had been definitely absent before the cure. The symptoms and the microscopical and chemical characters of the urine indicated acute nephritis passing into chronic parenchymatous nephritis. Two of these cases terminated fatally. The danger as regards the heart is that, in consequence of the stress brought to bear upon it, muscular insufficiency and dilatation may be developed, with shortness of

breath, palpitation, and irregular, feeble pulse. Among the symptoms due to derangement of the nervous system are loss of appetite, *anorexia nervosa*, vomiting, gastralgia, enfeebled digestion, and stubborn sleeplessness.

Surely it is better to be fat and feel comparatively well than to run so many risks and suffer so many ills in trying to become something else than what Nature evidently intends us to be. The greatest danger to many a fat person is that he should attempt to become lean.

MAMMARY ABSCESS.

SUPPURATIVE inflammation of the mammary glands occasionally occurs in new-born children and in girls at the age of puberty. Its frequency is, however, so much greater during the periods of functional activity that it may be practically regarded as a disease of lactation.

E. Bumm* refers cases of this affection as it occurs in lying-in and nursing women, and occasionally also during pregnancy, to two groups, differing in causation as well as in their course and termination: 1, simple parenchymatous (non-infectious), and, 2, phlegmonous (infectious) mastitis.

1. Simple or non-infectious mastitis is due to the accumulation and retention of the newly-formed secretion, and differs in degree only from that physiological fulness and tension which are felt in the breasts upon the second or third day after parturition. The mammæ, being but poorly supplied with intrinsic contractile elements and wholly lacking the influence of extrinsic muscles, are less favorably arranged than the other glands of the body for the discharge of their secretions. They are dependent upon the aid of the suckling, or, in its absence, of the breast-pump. If this aid be deficient, the retention which follows may cause local and general disturbances that are, especially in women of irritable, nervous organization, of some moment. The temperature may reach 102.8° to 104° F.; the breast is full, hard, and painful; red streaks extending in the direction of the axilla may indicate inflammation of the lymphatics. But the tendency after massage and suction is to dispersion and resolution, and only exceptionally is there necessity for evacuation by an incision through the skin. Even then the discharge is not pus, but milk in process of inspissation and disintegration of the globules, and, with rare exceptions, it is free from bacteria. Here we have the familiar "weed" of the old nurses.

2. But in phlegmonous or infective mastitis we have a very different and much more troublesome affection to deal with. The line of separation between the two conditions is sharply defined. In fact, they have nothing in common except the same anatomical seat, nor can there be any question as to the development of the graver out of the milder malady.

Phlegmonous mastitis occurs more than twice as frequently in primiparæ as in multiparæ; much more frequently in women who are nursing than in those who are not. It begins in by far the greater number of cases in the course of the first month after accouchement; lesions of the nipple usually precede it; and, finally, a part only of the breast is commonly implicated at first, and that part is usually the undermost or the under and outer part. Errors in diet, colds, worry, mechanical irritation, are, singly or together, quite incapable of causing this form of inflammation. It is due to the presence of specific pyogenic microbes. These cocci are found sometimes arranged in clusters (staphylococci), sometimes in chains (streptococci), and are to be distinguished from other microbes of similar form by the peculiar appearance of their pure cultures and by their active growth, while the energy with which they take up and retain aniline dyes

* Volkmann's Klinische Vorträge, No. 282.

renders their study in the tissues comparatively easy. The distribution of these organisms is so wide and abundant that their contact with the nipples is almost unavoidable. Any want of the most thorough cleanliness, any abrasion, maceration, or loss of epithelium, opens the way for the infection of the deeper structures of the breasts. And it is here that the long-recognized relation between lesions of the nipple and phlegmon of the breast finds its explanation. The disproportionate frequency of the latter affection in primiparæ is also made clear, when we consider their greater obvious liability to nipple-lesions. The invasion may be subcutaneous, and by way of the lymph-vessels deeply into the interstitial connective tissue of the gland, or much more commonly it is by way of the milk-ducts directly into the parenchyma. Infection once set up, milk-retention, by widening the ways of access to the deeper parts, favors the extension of the pyogenic inflammation.

The positive knowledge of the etiology and true pathology of phlegmonous mastitis gained by bacteriological studies has less bearing perhaps upon the treatment, which must still be conducted in accordance with accepted surgical procedures, than upon prophylaxis. The hardening of the surface of the nipples by daily bathing with cold water and gentle frictions during the later months of pregnancy, and their systematic bathing after nursing, long advised by cautious midwives, have now more than a mere empirical basis. To avoid all maceration and guard them by vaseline or oil while yet sound, and to heal without delay each fissure or abrasion so soon as it appears, are measures no longer to be lightly neglected. "Sore" or "cracked" nipples are troublesome enough in themselves: in the light of their relation to "gathered breast" they acquire a new and serious importance.*

* Dr. Ernst's article on another page will be read with interest in this connection.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE date for the reopening of the medical schools in England is now close at hand, and with the resumption of teaching comes a general revival in the interest of medical work. Within the last three or four years great improvements have been made by several of the smaller schools in their buildings. At Charing Cross, St. Mary's, and Westminster new school-buildings have been erected at very considerable cost: an immediate increase in the number and also—it is said—in the quality of the students followed the provision of theatres and laboratories adequate to the needs of modern medicine, so that the staffs of those hospitals by whom serious pecuniary responsibilities must have been undertaken have already begun to reap their reward. This year the arrangement made with the Science and Art Department comes into force: under it the students who enter the medical schools attached to the Middlesex, Charing Cross, St. George's, and Westminster Hospitals will receive instruction in preliminary science in the Science Classes of the Department at South Kensington. The student pays a composition-fee to the school of the hospital of his choice, and the school pays a capitation-fee to the department. The scheme is generally considered to be a move in the right direction: the attempt to keep up a complete series of classes for instruction in the preliminary sciences put a severe strain upon the resources of the smaller schools, and it has been very commonly said that not only the teaching but the apparatus has not been up to the mark. The great State Department at South Kensington commands not only most perfect apparatus, but teachers of the highest ability. Professor Huxley was for many years its guiding spirit, and, though ill health has compelled him to relinquish all work, he has left pupils worthy of his reputation. This arrangement between these medical schools and the Science and Art Department is only temporary. In the course of years it is possible that they may combine together to erect and maintain a combined school for preliminary science, which would be under the direct control of a joint committee. The success of the scheme will probably have an injurious effect upon University and King's Colleges, especially upon the former. For a long time University College had everything its own way, and the services which it rendered to biological science can never be forgotten, and indeed mark an epoch in the history of science in this country. First Cambridge, and now Oxford, has established classes and laboratories which are attracting the cream of the students: this scheme of the

smaller London schools will further diminish the attractions of University and King's Colleges, and the larger schools in London are now alive to the importance of having good science schools. With this object the school-buildings of the London Hospital, for instance, have been almost entirely rebuilt, and enlarged to thrice their former capacity. The move to provide residential colleges for medical students is also gaining ground; and if the scheme for obtaining a charter enabling the combined Colleges of Physicians and Surgeons to grant degrees is successful, as there is no reason to doubt, then the supremacy of London as the chief British medical school, now seriously threatened by Edinburgh, will become more firmly established than ever.

A circular recently published containing a sketch of the arrangements already made for the International Medical Congress next year is in one respect a disappointing document, for it shows that, as a rule, the leading men in this country in their several departments have either not been asked to hold office or have declined the honor. Such names as those of Professors Annandale, Burdon-Sanderson, McCall Anderson, Richard Quain, Erichsen, and T. R. Fraser, of Sir William MacCormac, and Drs. Klein, Charles West, Eustace Smith, and Mr. John Simon, give weight to the list in the eyes of Englishmen, but it would not be difficult to strengthen it very materially.

The British Dental Association, a young but flourishing institution, with nearly seven hundred members, held its annual meeting last month. Most of the papers read were of purely special interest, but two were of more general significance. Mr. Fisher, of Dundee, again urged the advisability of providing compulsory attention for the teeth of school-children, and Dr. George Cunningham, of Cambridge, discussed with much acumen the "Relation of Dentistry to the State." The working and poorer classes in this country almost entirely neglect the care of their teeth; among the patients who come to the out-patient departments it is rare to see anything approaching a perfect denture. Dr. Cunningham examined the mouths of a hundred young men who presented themselves consecutively for service in the army at a recruiting-station in London: he found that seventy per cent. were suffering from inflamed and ulcerated gums, twenty-seven per cent. from chronic abscess, that on an average each man had lost or would be the better for losing more than three teeth, and had also four carious teeth that could be stopped. As all these recruits were young men, and as about sixty per cent. were accepted as fit for service in the army, it is safe to conclude that they afford a criterion of the state into which the teeth of the whole class from which they are drawn are habitually allowed to fall. There are hundreds of dentists who are willing to stop teeth for a very small fee, but the working classes appear not to be sufficiently alive to the advantages which conservative dentistry could confer on them to bé willing to expend even the small sums demanded: they seem to prefer to put off the evil day until extraction is the only possible treatment; a small percentage subsequently obtain false teeth, which, however, do not seem to be often well fitted. With that very large and, it is to be feared, increasing class who find the struggle for existence too keen to leave any margin for dentists' fees, however modest, extraction is almost the only treatment. The Dental Hospitals will stop the teeth of patients coming with a subscriber's letter, but this useful work is on so small a scale that it produces but little apparent effect on the general population. Dr. Cunningham sought to show that it would be worth while, from the pecuniary point of view alone, for the state to give attention to the conservation of the teeth of the young men entering the army and navy, at least: a trained soldier, and still more a trained sailor, is an expensive product, and it cannot be doubted that the state loses every year a large sum by the ill health directly or indirectly traceable to painful teeth or imperfect dentures. It is, of course, very difficult to prove the extent of this loss, but, as the richer classes in this country are very assiduous in the care of their own teeth, it ought to be a comparatively easy task to convince our legislators that it would be advisable to establish dental departments on a modest scale in connection with the medical departments of the army and navy.

A project is now on foot which may have a most beneficial effect on the progress of the science of hygiene in this country. Soon after the death of Dr. Parkes, Professor of Hygiene in the Army Medical School at Netley, and author of the well-known book, a meeting of his friends determined to perpetuate his memory by bringing together a collection of sanitary apparatus. The Parkes Museum has been kept together ever since, and a library of some importance has been brought together; but the pecuniary position of the undertaking has never been satisfactory, in spite of the disinterested efforts of most of the leaders in practical sanitary work. Another body, the Sanitary Institute of Great Britain, came into existence at about the same time as the Museum, and has gradually fought its way to general recognition. It holds every year a Congress in some provincial town, and during the Congress an exhibition of novelties in sanitary appliances is organized and kept open for about three weeks; the Institute also grants diplomas to District Surgeons and Inspectors of Nuisances after examination, and publishes an annual volume of Transactions. It had long been felt that these two institutions could work

much more effectively and at a greater economy in time and money if they could be amalgamated. This process is now in progress: the constitution of a new body to combine the work of the Parkes Museum and the Sanitary Institute has been provisionally approved by the members of both, and I understand that those who know most of both look forward hopefully to a satisfactory arrangement before very long.

A medical question of international importance—the present unsatisfactory position of ship-surgeons—has recently attracted some attention in the lay press. The greater part of the transatlantic passenger trade, and almost all the trade to India, Australia, New Zealand, and the Cape of Good Hope, are at present in the hands of English companies, whose fleets are officered by Englishmen. Some of these enormous boats afford a temporary home to a very large number of persons,—travellers, emigrants, and seamen; the passengers and emigrants at least are often placed under circumstances of great discomfort, involving some danger to health, and statistics appear to show pretty plainly that the mortality on board transatlantic liners is excessive. Such being the case, it is much to be regretted that there is practically no sort of control over the appointments made by the companies to the post of medical officer in charge of these passenger-ships. At present the only requirement is that the individual thus appointed shall hold a diploma qualifying him to practise in Great Britain or Ireland. Ship-owners as a rule do not, it is said, favor independence of character: a surgeon who will go through the routine prescribed by the Board of Trade, who shuts his eyes to deficiencies in the sanitary arrangements, who will accept small pay, and, above all, who will make no complaints, is the officer most desired; if in addition he is sober and makes himself socially agreeable to the passengers, then he will be all that any ship-owner could wish a surgeon to be. Official inquiry has left no doubt that the regulations of the Board of Trade, especially those connected with the provision of proper hospital accommodations on board, are systematically neglected; representations bearing on this question and giving well-authenticated examples of the abuses which exist have been made to the Board of Trade and also to the Royal Commission on Loss of Life at Sea. This Commission, however, has not recently given any signs of life, and, in the impotent state to which politicians of all shades of opinion have been reduced by the events of the past year, it is highly improbable that any useful ameliorative legislation will be possible perhaps for years. The advocates of reform urge that the medical officers of passenger-ships ought to be independent of the caprices of owners or captains; they urge that a Mercantile Medical Marine Service should be formed, and placed under the control either of the Board of Trade or of the Local Government Board, which is already charged with the supervision of Port Sanitary authorities. The surgeon of a ship, especially of an emigrant-ship, is not only a medical but a sanitary officer, and the proper discharge of his duties in the latter capacity is a matter of great importance to the United States and other countries which receive immigrants in large numbers. The Australian colonies long ago appreciated this, and established a Colonial Emigrant Medical Service, which attracted a very competent class of men. It is now asked that the British government should establish a Mercantile Marine Medical Service on the same lines, and it is urged that if the members of such a service were assured of adequate pay, promotion, and pension, and were made responsible in sanitary matters to a government department, a thoroughly good class of men would be led to join, to the advantage alike of passengers, emigrants, owners, and of the countries concerned in the trade.

The death of Dr. James Wakley, from epithelioma of the tongue, occurred on August 30. Since the death, in 1862, of Mr. Thomas Wakley, M.P., the founder of the *Lancet*, Dr. James Wakley had acted as editor of that influential journal. He was seldom seen in the medical world of London, but had the power of attracting to himself a band of zealous and enthusiastic workers: by their aid he had more than maintained the high standard of excellence reached during his father's conduct of the *Lancet*.

DAWSON WILLIAMS.

September 18, 1886.

JAPAN.

THE CHOLERA IN JAPAN.

THE principal topic of medical interest in the capital has been for some time past the progress of the cholera in this country. Although Asiatic cholera can hardly be said to be epidemic in Japan in the sense that it has recently been epidemic in some European cities, yet, nevertheless, having stricken down nearly one hundred thousand persons in less than three months, of whom over half have died, it is not to be wondered at that the presence of such a disease should prove a source of great anxiety to the people, and demand every possible combative measure to be taken upon the part of the government and the medical profession. That the people are thoroughly alarmed there can be no doubt, as one is constantly meeting persons upon the streets with carbolized handkerchiefs to their noses and bottles of cholera-mixture in their hands. It is fortunate that such a wholesome dread exists, as it leads to more care being taken as to diet and drink; while on the part of the government every precaution is being ob-

served against further spread, and present arrangements for the care and treatment of cholera-patients are being perfected.

The cholera, although it has carried off so many citizens, has not proved an unmitigated calamity. The majority of deaths has been among the lower classes, with only here and there one of the gentry; but the government and people have become thoroughly awakened to the necessity of making immediate improvements in the water-supply and drainage of the larger cities, as well as in laws governing tenement-dwellings and the sale of deleterious foods. Not that these improvements have not been going on for the past ten years, but that they should be pushed faster.

Tōkyō as a capital city is far ahead of any Eastern capital in its sanitary arrangements, and if one were to compare its death-rate with those of some Western cities the result would not be greatly against it, as the rate, I think I am safe in saying, is seldom above twenty-six per thousand.

The city, including within its urban and suburban jurisdiction a population of over 1,200,000 within a radius of about six miles in every direction, has six thousand acres in public parks, and probably as many more acres in temple-grounds; the former giving one acre to about every two hundred inhabitants, which is about the same proportion as in London, and is exceeded only by Paris, Vienna, Washington, Dublin, and Boston; while it is equal to that of Chicago, and stands above that of New York, Berlin, Philadelphia, Baltimore, and San Francisco.

It has a very extensive water-supply, which was undoubtedly originally good, but, as has been found upon analysis to be the case, is at the various points of delivery very much deteriorated from passage through miles of wooden pipes. The two supplies of the city are known as the Kanda and the Tamagawa canals, with the former of which there are connected about twenty-nine miles of wooden pipes, and with the latter about thirty miles, or nearly sixty miles in all, supplying, it is stated, about forty million gallons of water daily through some eight thousand wells and many overflows. If all this water were used, there would be a proportion of about thirty-three gallons per head, which, taking twenty-six gallons per head as a standard,—the allowance made by the engineer of the new water-works for Yokohama,—would be a liberal supply; but it is probable that the actual supply per head per diem is not as abundant, although there are numerous surface-wells besides.

The drainage is mostly through surface-drains, some of which are washed with water from the aqueduct-overflows, and are thus kept tolerably clean.

It will be seen from the above that the water-supply and drainage of Tōkyō are two very important factors bearing upon public health in the city, so that it is probable that the present epidemic will have the effect of hastening the laying of iron pipes instead of the leaky wooden ones, and of causing the drains to be rebuilt; in which case, as I have said, it will not prove an unmitigated calamity.

Whenever such improvements have been made, we may hope, in Tōkyō at least, to suffer less from cholera epidemics than hitherto. It has been stated that statistics of this and previous epidemics in Japan show that whenever an epidemic strikes a town it does not leave it until at least one per cent. of the inhabitants have been carried off by the disease. If this be true and the drinking-water be the principal means of infection, we may hope for future immunity, having before us the result of the introduction into Glasgow of Loch Katrine water in place of that from the Clyde, before which and during the epidemics of 1832, 1849, and 1854 the mortality from cholera was twelve per thousand, while it amounted only to .16, or one-eightieth, thereafter in the epidemic of 1866.

The latest returns of the cholera show that since its beginning to the 6th of September 97,897 cases have occurred, with 61,041 deaths: or about 62½ per cent. of deaths. The highest number of cases is reported from Osaka: 17,456 cases with 13,296 deaths in urban districts, and 10,473 cases with 8237 deaths in the suburban districts, making the number of cases in both urban and suburban districts 27,929, and the number of deaths 21,533. Tōkyō has already had 9140 cases with 5749 deaths in the urban districts, and 8110 cases and 5284 deaths in the suburban districts, making 17,250 cases in all, with 10,973 deaths.

The *Sei-I-Kwai Medical Journal* published September 4 contains the following editorial:

"The present epidemic may perhaps be looked at, following so close upon that of last year, as the continuation of the epidemic of 1885, in which, from August 23 to November 30, 11,927 cases occurred, with 7152, or 59.96 per cent. of deaths, although there were only sporadic cases of cholera in the country between the end of one epidemic and the outbreak of the other.

"If compared with previous epidemics, its resemblance to that of 1879 will at once be noticed. This epidemic of 1879, which was preceded by a milder epidemic (1877), began on the 14th of March, and only gained force early in July, reached its climax in the week ending August 28, diminished greatly immediately afterwards, and by the middle of September was under control; after which there was but one exacerbation, which occurred in the first week in November, the epidemic gradually dying out and disappearing in the month of December following. The total nnmber of cases in this epidemic was 162,637,

of which 105,786, or 65.04 per cent., died. Referring to the tabular statement published by the Sanitary Bureau, it appears that the greater number of cases and deaths occurred before the end of August, and from that time onward until the end of the year the epidemic gradually lost force. Comparing the death-rates of the two epidemics, it will be noticed that the rate of 1879 was 65.04, while that of this year is thus far 63.55, or one and a half per cent. lower. We may therefore feel encouraged, as the number of cases and deaths has only been two-thirds of the number of cases and deaths at the same stage of the epidemic of 1879, and also as the death-rate is somewhat lower; and we may reasonably hope that the force of the epidemic will soon be broken. Certainly the reports from Yokohama and other provincial towns are encouraging, the number of new cases having been reduced to less than a dozen daily. In the capital, however, the epidemic still continues to rage, the number of cases having been slowly increasing, with a corresponding number of deaths, up to the 25th; the number of cases, as shown below, is now about two hundred to three hundred daily, with from one hundred and fifty to two hundred deaths. The authorities are leaving nothing undone to check the epidemic, and have undoubtedly, in spite of the bad influence of great heat and dry weather, kept the disease from spreading to the same extent that it had at the end of August in the epidemic of 1879."

It may therefore be reasonably hoped that the worst is over, although the number of cases in Tōkyō reached three hundred and fifty, with two hundred and twenty-four deaths, on the 1st instant.

One of the good results of the present epidemic has been the stimulus it has given to the careful study of the disease and the perfection of means to prevent its spread. The Japanese Health Society has published minute descriptions of the malady and the principal methods of treatment; while, with other societies, it has widely disseminated this information in popular form. The government has also issued directions respecting the management of the disease, which are posted in conspicuous places. Patients suffering from cholera are, as soon as reported, unless they can in the judgment of the police be properly cared for at home, taken upon litters to the cholera-hospital, where they have every attention and the best of medical skill. The houses where cases have occurred are usually quarantined for a week thereafter, and the bedding and other articles used by the patient or likely to have been infected are burned. In case the patient dies, his body is cremated.

Nearly all the wells in the city have been examined and their waters analyzed, and, in case of their being unfit for drinking purposes, their use for such purposes is prohibited.

It will be seen from the above that the authorities are thoroughly in earnest, and are bringing every resource to bear in stamping out a disease which had threatened to become a scourge to Japan.

Tōkyō, September 9, 1886.

PROCEEDINGS OF SOCIETIES.

THE AMERICAN GYNÆCOLOGICAL ASSOCIATION.

(Continued from page 32.)

Second Day.

AT the opening of the morning session the Secretary, Dr. JOSEPH TABER JOHNSON, presented a paper contributed by Dr. JOHN GOODMAN, of Louisville, Kentucky, and read it in the absence of the author. It was entitled

ERGOT AFTER LABOR.

The practice of giving ergot has been sanctioned by the highest authorities. It is generally claimed that it acts by preventing after-pains, by hastening involution, preventing hemorrhage, and averting septic poisoning. It will be admitted that if its good results could be obtained without incurring additional danger it is worthy of being used, but if there is added danger it should be investigated. In one case uterine spasm and ergotism followed the administration of a single drachm of the fluid extract after confinement. On the third day a slight fever began, which continued for a week; there was no secretion of milk. Though previously prolific, the patient never afterwards conceived. A second case was a primipara, who had been delivered by forceps. Ergot was given as before. On the third day retention of urine required the introduction of the catheter; on the sixth day fever set in, with tenderness of the abdomen, offensive lochia, and a clot of blood was expelled. In spite of treatment, the patient died with septicæmia on the fourteenth day after labor. The explanation of the case is that the uterus was made to contract firmly upon a clot of blood, which, unable to escape, underwent putrefactve decomposition, and the products were absorbed, causing septicæmia. Such attacks the author had noticed a number of times, and thinks that others must also have seen them, but attributed them to malaria or milk-fever. The fever lasts from one to five days, and he thought must be due to some action of the ergot upon the system at large.

That ergotism thus early introduced can hasten involution he considered an absurdity; even if it could be hastened, he questioned its desirability. Involution is a normal process, like digestion, and it must proceed according to physiological law. The routine administra-

tion he condemned as being as unphilosophical as it would be to give a dose of pepsin after each meal. The most marked case of subinvolution he had ever seen occurred in a case in which a midwife had given ergot freely during labor. The action of ergot upon the muscular tissue of the uterus and blood-vessels he regarded as antagonistic to the normal process of involution after labor.

The only benefit which could accrue from the administration of ergot after labor is the prevention of hemorrhage. His rule was never to give ergot unless post-partum hemorrhage was imminent. The best method of administration he believed to be by hypodermic injections of ergotine, given every fifteen or twenty minutes until the effect is produced.

The PRESIDENT called upon Dr. BARKER to open the discussion.

Dr. FORDYCE BARKER replied that he had very little to say, except that this was by far the most original paper that he had ever heard read before the Society: original in its conclusions and original in its reasoning. It is a subject which has been frequently discussed, and upon which each have their own opinions made up, and therefore hardly requires discussion.

Dr. THADDEUS REAMY said that he would anticipate the publication of a paper on this very subject, which he had prepared to read before the annual meeting of the Cincinnati Academy of Medicine, sufficiently to say that in it he had gone over the question, and had condemned the routine administration of ergot in confinement as unnecessary and injurious. The contraction produced by ergot is a tonic spasm of the uterine muscle, and is very different from the normal rhythmical contraction which should occur after labor. He felt assured that in the course of the next six or eight years there will be an entire revolution in the obstetric procedure in respect to the administration of ergot after labor.

Dr. BARKER stated that in the absence of the author of the paper he did not wish to speak when called upon to open the discussion, but since the same views have been expressed by the President he thought that they should be controverted.

Dr. GOODELL said that he was not an extreme partisan of ergot, but he could not accept the conclusions of the paper. He believed them to be based upon insufficient experience. The cases reported are explainable upon other grounds. The first was one of fibroid polypi; the second, of septicæmia. There is no evidence that ergot was responsible for the accidents in either case. The lecturer invokes "Dame Nature," but forgets that we are living not in a natural state, but under artificial conditions. After-pains rarely occur in primiparæ. In twenty-five hundred cases of obstetrics he had never seen any bad results from the exhibition of ergot; the single dose of ergot after labor can exert but little influence upon involution, which is a process of fatty degeneration. In these days there is less danger of septicæmia since we have learned the use of antiseptics, and we do not need to give ergot to prevent it. The principal utility of the drug is in preventing hemorrhage.

Dr. ENGELMANN still holds the views that he expressed in a paper read at a former meeting with regard to the dangers of the abuse of ergot; he believed that hot water, the faradic current, and the other resources of antiseptic midwifery would enable us largely to dispense with the use of ergot after labor. In spite of what has been said and written, ergot will remain a valuable remedy, and he would not venture to say because it had been abused that it should be abolished. The injury which has been caused by it has been due to the abuse and not to its proper use.

Dr. PARVIN called attention to the fact that it had been assumed in the discussion that ergot always produces spasm of the uterus; he believed it to be a question of dose. Nothing is better established in therapeutics than that small doses of ergot may produce tonic contraction of the uterus. He refused to admit the argument that ergot should never be given prior to the emptying of the uterus, since the practice of two men who have been most successful in the treatment of placenta prævia—Dr. Ellwood Wilson, of Philadelphia, and Dr. Murphy, of England—has been to use ergot. Again, in cases of lingering labor where no obstruction to delivery exists, small doses of ergot will produce expulsion of the child. If women were perfect in structure and function, labor would be a normal process and obstetricians would not be required; but, the contrary being the case, the argument of the lecturer falls to the ground: nature in civilized life requires the assistance of art. By the use of ergot he had found that involution was not prevented, but hastened.

Dr. REEVE wished to enter a similar protest against the argument of the paper.

Dr. SKENE asked, if the deductions of the paper were accepted, whether it would tend to advance the obstetric art or put it back about seventy-five years. He believed that experience had proved the usefulness and limitations of ergot. The results reported from the use of ergot in the West were certainly different from those in the East. He hoped that the prediction of the President would not be fulfilled, but that in five years he will forget all that he has said about ergot.

Dr. WILLIAMS, of Boston, believed that ergot has a function to perform in obstetric medicine. In an experience of thirty-five years he could not recall a single case where after using it he had regretted doing so.

The President's address was then delivered by Dr. THADDEUS A. REAMY, of Cincinnati.

THE ADDRESS OF THE PRESIDENT.

At the beginning of the second decade of the Society, the speaker could not but congratulate the Fellows upon the enduring monument they had erected to the science of gynæcology in the ten volumes of Transactions which had been published. The work done by the Society and individually by the Fellows had contributed largely to advance in the departments of obstetrics and gynæcology.

After pausing to pay a brief tribute of respect to the memory of Dr. Albert Holmes Smith, of Philadelphia, an ex-President of the Society, whose death had oocurred during the year (and an appropriate biographical sketch of whom would be contributed by Dr. Parvin to the Transactions), he took up the principal subjects of his address. Ovariotomy has reached such perfection that Tait can report a series of one hundred and thirty-nine cases without a single death. But there is a danger that the gravity of the operation may be underrated,—undertaken by those who are unaware of the essentials to its successful importance, —and thus ovariotomy be brought into disrepute. Is the operation for removal of the ovaries for supposed beginning cystic degeneration, cirrhosis, catarrhal salpingitis, chronic catarrh of the tubes, stenosis, congestion, enlargement, always justifiable? He thought not. Sinless ovaries have been sacrificed, and women mutilated who might have recovered by hygienic treatment, electricity, vaginal irrigations, local applications, and rest. Statistics of Dr. Coe show that there has been a little too much enthusiasm manifested for unsexing women. Much of the pathology has been constructed after the operation in order to excuse the removal of ovaries and tubes. He applauded the conservatism of Schroeder in leaving the undiseased portion of the ovary where possible. While as a Society and individuals he called upon his hearers to do all in their power to proclaim and practise against this unsexing enthusiasm, and to endeavor to determine its limitations, at the same time he would not wish to be understood as saying one word against spaying in properly-selected cases. Abdominal surgery has conferred no greater blessing nor shone with brighter lustre than in the rescue by these operations of certain subjects, curable by no other means, from death, or from a life worse than death.

The triumphs of ovariotomy have stimulated abdominal surgery, and have demonstrated the fallacy of the old ideas of peritoneal intolerance. One of the recent advances of this character is seen in the adoption of laparotomy for suppurative peritonitis, which has been performed with encouraging results in England.

Alexander's operation is still on trial, but, as it rests on sound principles, it seems probable that it has a future. The results, however, have not been very promising thus far, it must be confessed. Even in the hands of experts it has signally failed, and the mortality is variously stated at from one to six per cent., and many of those apparently relieved by the operation show relapses.

The means for the recognition of early signs of pregnancy are still lamentably defective, and the attention of the Fellows was directed to its importance. Diagnosis other than by surgical means he feared had recently been too much neglected. High diagnostic skill is the first essential to successful practice,—"qui sufficit ad cognoscendum, sufficit ad curandum."

Medicinal therapeutics have not received as much attention as they should have done in the proceedings of the Society. The discovery of some agent with a specific action upon the ovary might prove an ovarian saviour. But this neglect of medicine in this field is not confined to the Society: it is one of the derelictions of all countries, to which attention had been well directed by Dr. Meadows in his address on obstetrics before the last meeting of the British Medical Association.

Electricity has a place in our therapeutics, and deserves an intelligent trial at the hands of the profession. It has fought its way to the front through a most obstinate scepticism, bred largely of ignorance of the indications for its use and mode of employment. In the treatment of extra-uterine pregnancy, it has been demonstrated beyond a doubt that it is the safest and most efficient treatment yet proposed for this condition. It is worthy of note that this treatment was first employed and its value demonstrated in this country by Dr. J. G. Allen, of Philadelphia.

In the treatment of uterine fibroids ergot has been given with commendable enthusiasm and patience, especially by Apostoli, with very encouraging results. He had himself seen admirable effects with regard to arresting growth in these cases with its aid. Notwithstanding the brilliant results reported from the practice of Keith, the question may still be asked whether hysterectomy for uterine fibroids is justifiable. The fact that the disease has a brief active life and of itself rarely kills suggested a negative answer to the mind of the speaker.

Cases of severe dystocia present difficulties and dangers which have hitherto been thought to require craniotomy. The improvement in hygiene of childhood, thus preventing deformity, and the development and perfection of the Cæsarean operation, and its modifications by Porro and Müller and Thomas (laparo-elytrotomy), the resort to premature labor, turning, improved forceps, have each contributed largely to diminish the proportion of cases requiring interference. The Sänger-Leopold operation will give as satisfactory

results here as it has abroad when it is done deliberately, early in the labor, and as a primary measure. As the result of recent advances, it does not require a seer's vision to declare that in the near future craniotomy will be abolished, and the instruments for its perpetration relegated as curiosities to museum-shelves.

The total extirpation of the uterus for cancer has experienced a renaissance from the successful results reported by German operators. The most rational method for its performance was devised by Dr. S. C. Lane, of California. In the opinion of the speaker, the operation is justifiable only in rare instances where the disease is confined to the body of the uterus, the cervix and vagina remaining comparatively free. It is undoubtedly justifiable in all cases of spindle-cell sarcoma of the body.

With regard to the etiology of cervical epithelioma, he committed himself to the belief that the cervical traumata of parturition strongly predispose to the development of carcinoma. In an experience of thirty years, with many hundreds of cases, he had seen but three cases of cervical epithelioma in the virgin. Emmet's operation for restoration of the cervix for manifest fissure is therefore justifiable on the ground of prophylaxis against malignant disease, if on no other.

In conclusion, the speaker discussed the curette, and recited cases where bad results had followed its use. He warned his audience especially against its use immediately after the removal of tents of tupelo or laminaria. He now uses rapid dilatation in preference to tents, and employs the curette afterwards if required. He then read the report of a remarkable case in which the copper curette by accident penetrated the uterine fundus without being followed by peritonitis or other symptom of disorder: the patient is still living.

After the termination of his address, the President strongly advocated the adoption of the proposition for the Society to join with the Surgical Association and other special organizations in a Congress to be held at Washington.

A vote of thanks was tendered the President for his interesting address.

MATERNAL IMPRESSIONS.

Dr. FORDYCE BARKER, of New York, read a paper in which a number of instances, both among the lower animals and in man, were cited in which emotional and physical impressions affected the development of the fœtus or the structure of the child.

Drs. BUSEY and BILLINGS discussed the paper, and claimed that if a law exists it must be universally applicable when the conditions are identical. It is necessary to ascertain these conditions in order to discover the law. At present no such law is known to science.

Dr. GOODELL had observed some peculiar coincidences which he could not explain, but was not willing to admit that a relation of cause and effect had been demonstrated to exist.

On motion of Dr. CHADWICK, a committee of three was appointed on this subject, to report the results of their investigations at a future meeting of the Society.

Dr. JOHN BYRNE, of Brooklyn, New York, read a paper describing the

TREATMENT OF PROCIDENTIA UTERI BY THE GALVANO-CAUTERY.

Permanent and satisfactory results in cases of procidentia uteri can only be obtained by amputation of portion of the entire cervix, added to operations upon the vagina or perineum which in themselves would be inefficient except in so far as they present obstacles to vulvar protrusion. The object of the paper was to direct attention to the important gain obtained from the alterative effect of the inflammatory processes which result in a remarkable degree when the galvano-cautery is employed in performing amputation of the cervix. In a case of extreme procidentia with prolapse of the vesico-vaginal wall, complete restoration to health followed the amputation of part of the cervix in this manner. Nine cases in all had been treated with the galvano-cautery; in three partial amputation had been performed. In six others linear cauterization alone was required.

Dr. GEORGE J. ENGELMANN, of St. Louis, read a paper on

ELECTRICITY IN GYNÆCOLOGICAL PRACTICE.

The difficulties which had beset the introduction of this agent in uterine surgery have now been surmounted, and the indications for its employment are being better defined by experience. The numerous conditions in which it had been used with reported advantage were mentioned. In obstetrics it is useful in uterine inertia during or after parturition, in cases of weak and irregular labor-pains, in post-partum hemorrhage and subinvolution, in paralysis of bladder or rectum after delivery, and in checking the development of the fœtus in extra-uterine pregnancy. Acute inflammation is the only contra-indication to the employment of electricity; it may, with proper care, be employed in subacute inflammation of the pelvic organs.

Dr. W. H. BAKER, of Boston, read a paper on

ELECTROLYSIS IN GYNÆCOLOGICAL PRACTICE.

The treatment of uterine fibroids may be successfully accomplished by the galvanic current, and the exudation in chronic pelvic cellulitis may also be removed by the same means. His conclusions were: (1) Electricity

is a useful agent in the treatment of certain cases of fibroid tumors of the uterus, as well as chronic circumscribed perimetric affections. (2) When applied to fibroid tumors of the uterus, electro-puncture is the most rational and efficient method. (3) In these cases it should not be applied too frequently. (4) Cases of perimetric affections treated by electrolysis require careful selection, with especial regard for the absence of acute symptoms.

A general discussion upon electricity in gynæcological practice, as well as obstetrics, occupied the remainder of the afternoon session.

Third Day.—The President in the chair.

Dr. JAMES B. HUNTER, of New York, read a paper on

PERSISTENT PAIN AFTER ABDOMINAL SECTION.

The causes of pain referable to ovaries, tubes, and peritoneum existing prior to operation, and those which might persist or develop subsequent to abdominal section (hernia, painful cicatrix, etc.), were considered in detail. The lecturer recommended that cases in which pain had existed prior to and had demanded the operation should be carefully watched for any return of the symptoms for at least two years subsequent to it. Peritonitis of any degree requires treatment not more for its immediate consequences than for its remote dangers. With regard to secondary operations for the relief of pain, experience has shown that they only occasionally afford relief and rarely effect a cure. In conclusion, he recommended that a guarded prognosis be given in all cases where abdominal section is undertaken for the relief of pain.

The paper was discussed by Drs. SKENE, SUTTON, WYLIE, BATTEY, H. P. C. WILSON, MANN, and J. TABER JOHNSON.

THE BLUE DISCOLORATION OF THE VAGINAL ENTRANCE AS A DIAGNOSTIC SIGN OF PREGNANCY

was the title of a paper by Dr. JAMES R. CHADWICK, of Boston, Massachusetts. He believed that, when present, this discoloration, seen more particularly on the anterior wall and about the urethral orifice, is of decided value: it is absent in about one-third of the cases during the first three months. Its absence cannot be accepted as negative evidence of the existence of pregnancy.

In the discussion, participated in by Drs. EMMET, PARISH, H. P. C. WILSON, ENGELMANN, SKENE, and JOHNSON, the presence of this appearance in some cases of morbid growths of the uterus or its appendages was mentioned, and the general opinion appeared to be that no positive sign is at present known which will enable us to make a diagnosis of early pregnancy.

The President-elect was introduced, and made a brief address, regretting that he was imperatively called to New York and could not wait until the close of the session.

In the afternoon the Society was called to order, Dr. REAMY in the chair.

PRESENTATION OF SPECIMENS OF DISEASED OVARIES, AND ALSO FROM THREE CASES OF SUPRA-VAGINAL HYSTERECTOMY.

Dr. R. STANSBURY SUTTON, of Pittsburg, exhibited specimens and detailed the histories of several cases of oöphorectomy and three cases of hysterectomy by the supravaginal method. The latter operation, when undertaken for the relief of uterine fibroids, he considered rarely justifiable. Where hemorrhage is great and uncontrollable, and the patient is rendered a hopeless invalid otherwise, the question of operation comes up for serious consideration. The cases in which it is required are, however, comparatively few.

Remarks upon the paper were made by Drs. REEVE, WILSON, WYLIE, and REAMY, and the reader of the paper closed the discussion.

Dr. WILLIAM H. PARISH, of Philadelphia, read a paper on

THE HIGH MORTALITY OF RECENT CÆSAREAN OPERATIONS IN THE UNITED STATES.

A study of the statistics of the operation of Cæsarean section in this country, as prepared by Dr. R. P. Harris, reveals the startling fact that within the last five years the mortality has apparently steadily increased. The causes for this state of things are two: (1) Delay in resorting to the operation; and (2) Attempts at delivery prior to the abdominal section.

The paper was discussed by Drs. REEVES JACKSON, BAKER, JOHNSON, and the PRESIDENT.

An obituary of the late Albert H. Smith, prepared by Dr. THEOPHILUS PARVIN, was read by title and ordered to be printed in full in the Transactions.

At the business meeting the following were elected to active fellowship: Charles M. Green, M.D., of Boston; A. F. A. King, M.D., of Washington, D.C.; E. C. Dudley, M.D., of Chicago; A. W. Johnstone, M.D., of Danville, Kentucky; H. Marion Sims, M.D., of New York; B. F. Baer, M.D., of Philadelphia; Joseph E. Janvrin, M.D., of New York; W. Gill Wylie, M.D., of New York.

A large number of physicians were in attendance and invited to participate in the proceedings.

The annual dues were, on motion, reduced to fifteen dollars per annum.

Resolutions were adopted favoring the formation of a Congress of American Physicians, provided that the arrangement shall not require a surrender of the distinctive title or character of this Society, or interfere

with the full and entire management of its own affairs in every respect.

The Association then adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held September 22, 1886, the President, JOHN A. WYETH, M.D., in the chair.

MULTIPLE FRACTURE OF THE PELVIS AND RUPTURE OF THE BLADDER.

Dr. GEORGE F. SHRADY presented the pelvis and bladder removed from the body of an Italian who had been crushed laterally between two moving cars. The patient was brought to the hospital twenty-four hours after the accident, when rupture of the pelvis and extravasation of urine were recognized. Dr. Shrady performed median lithotomy, and on introducing his finger into the bladder found a rupture through the posterior wall on the right. The boggy feel of the pelvic tissues indicated extensive extravasation of urine. The vesical rent was thought to be below the peritoneal line. Suprapubic incision was made, with the intention, should the rupture exist above the peritoneal line, of cleaning out the peritoneal cavity and sewing up the rent. The rent proved to be below the peritoneal line, and through drainage was established. Some loose spiculæ of bone were removed from the pubic arch. The patient did well for twenty-four hours, but finally died on the fifth day after the operation. The post-mortem examination revealed eight fractures at the junction of the pubic and ischiatic bones, and also a fracture through the sacral foramen. The bladder was ruptured on the right and left sides.

CARDIAC HYPERTROPHY—CHRONIC DIFFUSE NEPHRITIS.

Dr. FRANK FERGUSON presented quite fresh specimens illustrating marked capillary injection of the stomach, cardiac hypertrophy, tortuosity, lengthening, and thickening of the arteries at the base of the brain, and advanced diffuse nephritis. The patient's father, mother, and sister had died of cardiac disease. His symptoms were those pertaining to disease of the kidneys and of the heart.

CEREBRO-SPINAL FEVER.

Dr. J. LEWIS SMITH presented the brain of a child, aged 27 months, dead of cerebro-spinal fever. It was an inmate of the Foundling Asylum, and had been tolerably healthy up to three weeks of its death, when it had a convulsion. Three weeks later it had another convulsion; the movements of the left arm became impaired; the rectal temperature was 104° F. There was tonic contraction of the left leg and thigh, but with a little force the limb could be extended. The pupils were moderately dilated, and responded feebly to light. Sight was apparently gone. The *tache cérébrale* was well marked. There was no rigidity of the muscles of the neck. Death took place after three days.

At the base of the brain the pia mater was cloudy, and there were streaks of fibrinous exudation, especially along the fissure of Sylvius, and in this locality were some minute points, not believed, however, to be tubercles. There were no tubercles elsewhere in the body. The pia mater in parts of the cord was injected.

Dr. Smith made the case the basis of some remarks relating to diagnosis of this disease, which he thought was sometimes mistaken for other meningeal affections. Cerebro-spinal fever had become endemic in New York, Philadelphia, Chicago, and other cities throughout the United States. Hence the importance of diagnosis.

ABDOMINAL HÆMATOCELE WITH HEMORRHAGE INTO THE PERITONEAL CAVITY.

Dr. H. N. HEINEMAN presented the specimens, removed from a woman 36 years of age. Three weeks before admission to the hospital she was suddenly seized with cramps in the abdomen, and pains had continued since. A hard mass was felt in the right iliac region, which six days later had increased in size, and the patient was failing, and died the next day. In the abdominal cavity, anterior to and below the promontory of the sacrum, projecting into the pelvis above the brim, was a firm mass, consisting of blood-clot, bound down, but extending above behind the peritoneum. Blood had entered the peritoneum, covering the kidneys, liver, lateral walls of the mesentery, and intestines. There was evidence of abortion.

CEREBRAL APOPLEXY WITH REPEATED HEMORRHAGES.

Dr. HEINEMAN also presented the brain of a man, aged 21 years, who was admitted to Mount Sinai Hospital July 9, 1886. That morning he had suddenly been seized with convulsions and unconsciousness, from which he gradually recovered. He had at times had headache. There were systolic cardiac apex and pulmonic murmurs. The patient was dull, but there was no paralysis. On the 14th the patient left the hospital without any symptom of disease, but weak. Three or four days later he began to complain of frontal headache, pain in both eyes, and vertigo. He had diarrhœa, began to vomit, which continued three days, and he entered the hospital July 30. At this time he seemed rather dull and complained of headache. The pulse was 44, temperature 99.6°. The patient lay quietly in bed until August 8, complaining of headache and being stupid. The left arm and leg were slightly weaker than the right, and the reflexes were diminished upon this

side. There was neuritis descendens. The left pupil reacted more slowly than the right. There was no facial paralysis, nor of the tongue or uvula. The pulse varied from 44 to 56. August 8 the patient became more stupid and irritable; had a slight convulsion. The urine was negative. Four days later he became brighter, and recognized those about him. The slight loss of power on the left side had gradually disappeared. Until September 3 the pulse varied from 56 to 80. On September 3 it rose to 87. The next day the patient seemed to fail; the pulse 120, temperature 100.5° F. During the last three weeks the patient lay in a semi-stupor, delirious at night; but there was no paresis. September 8 there was a chill; temperature 104.6°, pulse 144; symptoms of cystitis; a convulsion; opisthotonos, patient restless, pupils slightly dilated; conjunctiva slightly sensitive; râles over both lungs; systolic basic murmur. The patient remained stupid four days, when he again brightened and was able to eat alone in bed. September 15 his pulse, which had become depressed, again rose to 102; the temperature rose to 102° F. He again became stupid, but rallied again September 18, when he could with effort be made to answer. He died suddenly September 19.

The calvaria was thin; the pia mater was dull, with considerable serum beneath at the base; the convolutions appeared flat. In the left frontal lobe, above the gyrus fornicatus, was an ovoid mass covered with white brain-substance, projecting to the right of the median line. The mass was one and one-half inches by two inches in its diameters, egg-shaped, and consisted of a clot, partly recent, but principally of some duration, and quite firm, The surrounding brain-substance, extending to the roof of the left lateral ventricle, but not involving the cortex, was undergoing yellow degeneration. The lateral ventricles contained only a slightly-increased amount of serum; the heart was normal; the bladder showed acute inflammation; both kidneys were swollen and congested; the aorta was narrow and its walls thin.

Dr. Heineman called attention to the fact that several cases were now on record in which young men dead of cerebral apoplexy had been found at post mortem to have an abnormally small aorta. He referred to a case of the kind presented to the Society by Dr. Peabody.

Dr. FRANK FERGUSON had seen four specimens removed from the bodies of young men who had died of cerebral apoplexy and in whom the aorta was found to be unusually small.

ARTIFICIAL QUININE BY SYNTHESIS.—Mr. Cresswell Hewett, of England, claims to have successfully solved the problem of making quinine from a common article everywhere present, so that it can be sold at about six cents per ounce.

REVIEWS AND BOOK NOTICES.

TRANSACTIONS OF THE AMERICAN GYNÆCOLOGICAL SOCIETY. Vol. X. For the Year 1885. New York. 8vo, pp. 357.

In this handsomely-printed volume appear the President's Address and the communications made at the Washington meeting. Two rare cases in abdominal surgery illustrating the difficulties in diagnosis in some cases were the subject of the address of the President, by Dr. William T. Howard, of Baltimore. The first was a case of encysted effusion, with tubercular peritonitis simulating uterine fibro-myoma, the fluid from which coagulated spontaneously; the second was a case of suppurative peritonitis, also tubercular, simulating ruptured ovarian cyst. The address and the subsequent discussion were devoted principally to questions of diagnosis and the justifiability of exploratory operation.

Dr. Samuel C. Busey, of Washington, in a paper on the Natural Hygiene of Child-Bearing Life, calls attention to some prevalent dangers to health among women. Puerperal Diphtheria is the title of a paper contributed by Dr. Henry J. Garrigues, of New York, based upon cases occurring in his hospital practice. Irrigation of bichloride solution (1 to 2000) and suppositories of iodoform (iodoform, ʒx, amylum and glycerin, ʒj, pulv. acaciæ, ʒij, to make six suppositories for introduction into the uterus). When the patches are spreading, a solution of chloride of zinc is applied on a swab. Besides the local treatment, he gives fluid extract of ergot, morphia, quinine, alcoholic stimulants, and tincture of digitalis. Carbolic acid in one-minim doses every hour is good both as an antiseptic and to combat diarrhœa. Where danger of infection exists, an antiseptic pad is directed to be worn, wrung out of the corrosive-sublimate solution.

Dr. Joseph Taber Johnson reports four cases of oöphorectomy, with remarks, which led to an extended discussion.

Protection of the Peritoneum during Parturition is the subject of an able contribution by Dr. Thad. A. Reamy, of Cincinnati.

Dr. Edward W. Jenks, of Detroit, reports a Case of Cæsarean Operation, with some comments, in a patient who had previously been delivered of a living child, but had subsequently suffered a fracture of the pelvis.

Dr. Ellwood Wilson contributes some Remarks on the Use of Tarnier's Forceps, in which he renounces his previous condemnation of this instrument. He prefers Howard's modification. They are to be used for all applications at the superior strait or high up in the pelvis.

Dr. R. Stansbury Sutton has a paper describing A Modification of Emmet's Cervix Operation in Certain Cases.

Inflammation of the Parotid Glands follow-

ing Operations on the Female Genital Organs is the title of a paper by Dr. William Goodell, of Philadelphia.

The remaining papers are "Peristalsis of the Genital Tract and a New Theory to Explain Relaxation of the Vaginal Outlet," by James R. Chadwick, M.D.; "Facial Paralysis in the New-Born caused by the Forceps," by Theophilus Parvin, M.D.; "The Genu-Pectoral Posture in the Prolonged Nausea and Vomiting of Pregnancy, with Cases," by Henry F. Campbell, M.D.; "Mural Abscesses following Laparotomy," by James B. Hunter, M.D.; "Pelvic Abscess," by William H. Parish, M.D.; and "Laparo-Elytrotomy," by Charles Jewett, M.D.

The papers are, as a rule, decidedly valuable contributions, while the discussions elucidate the subjects considered and illustrate many of the difficulties in diagnosis and uncertainties in practice that are inseparable from a science in a state of progress.

NEW REMEDIES AND CLINICAL NOTES.

Treatment of Stricture of the Urethra by Electrolysis.—Dr. Robert Newman, of New York, in a communication to the *Medical Record*, gives the following instruction with regard to this valuable method of treatment:

1. Any good galvanic battery will do which has small elements and is steady: the twenty-cell Drescher battery, carbon and zinc, is an excellent instrument, sufficient particularly for the beginner.

2. The fluid for the battery ought not to be used too strong.

3. Auxiliary instruments, as galvanometer, etc., are important to the expert, but are not necessary for the beginner.

4. For the positive pole a carbon electrode is used, covered with sponge moistened with hot water, and held firmly against the cutaneous surface of the patient's hand, thigh, or abdomen.

5. For the absorption of the stricture the *negative* pole must be used.

6. Electrode-bougies are firm sounds insulated with a hard-baked mass of rubber; the point is a metal bulb, egg-shaped, which is the acting part in contact with the stricture.

7. The curve of the bougie is short: large curves are mistakes.

8. The plates must be immersed in the fluid before the electrodes are placed on the patient, and raised again after the electrodes have been removed.

9. All operations must begin and end while the battery is at zero, increasing and decreasing the current slowly and gradually by one cell at a time, avoiding any shock to the patient.

10. Before operating, the susceptibility of the patient to the electric current should be ascertained.

11. The problem is to absorb the stricture, not to cauterize, burn, or destroy tissues.

12. *Weak currents at long intervals.*

13. In most cases a current of six cells, or from two and a half to five milliampères, will do the work; but it must be regulated according to the work to be done.

14. The séance should be at intervals not too frequent in succession.

15. The best position for the patient to assume during the operation is that which is most comfortable for himself and the operator. I prefer the erect posture, but the recumbent or others may be used.

16. Anæsthetics I like to avoid: I want the patient conscious, so that he can tell how he feels.

17. Force should never be used; the bougie must be guided in the most gentle way; the electricity alone must be allowed to do the work.

18. During one séance, two electrodes in succession should never be used.

19. All strictures are amenable to the treatment by electrolysis.

20. Pain should never be inflicted by the use of electrolysis: therefore it should not be applied when the urethra is in an acute or even subacute inflammatory condition.

Animal Vaccine.—Dr. Charles R. Drysdale read a paper at the meeting of the British Medical Association on "The Superiority of Animal Vaccine." In 1877 he had studied animal vaccination in Brussels, at Dr. Warlomont's institution, and then had recommended in the Medical Society of London that calf-lymph should take the place of long-humanized lymph, for three reasons: 1, because in times of epidemics of smallpox calf-lymph could be had in quite unlimited quantities; 2, because it could not be accused of conveying syphilis; and, 3, and by far the most important of all, because evidence showed that animal vaccination was considerably more protective against smallpox than long-humanized lymph. This latter was proved by the remark of Dr. Warlomont that, in the terribly severe epidemic of smallpox of 1870–71, no person who had been vaccinated with animal lymph took the disease, and by the evidence given by Dr. Martin, the great vaccinator of the United States, recently deceased, that he had offered a reward of one hundred pounds to any one who should show him a case of smallpox which had occurred in a patient vaccinated by him with animal vaccine, and that no one had been able to claim the reward offered. Mr. Babcock, a chemist of Brighton, had clearly shown, by inoculating some two hundred cows with smallpox matter and obtaining a vaccine vesicle in thirty-three cases, that smallpox and vaccine were the

same disease, and that when we vaccinated ourselves we merely took a mild attack of smallpox. At the beginning of the century, when the illustrious Jenner was alive, human lymph was more preventive than now, because nearer to animal vaccine, and we should, therefore, as had been done in the United States, abandon the use of humanized arm-to-arm vaccination, and have recourse solely to calf-lymph for vaccination.—*Medical Record.*

A New Cause of Presystolic Murmur.—At the meeting of the Medical Section of the Academy of Medicine in Ireland, Dr. Finny called attention to an additional cause of presystolic murmur which had recently come under his own observation, and no other example of which he had yet found. In Sir Patrick Dun's Hospital there was a case of simple hypertrophy of the left ventricle from cirrhosis of the kidney. Subsequently dilatation of the cavity had taken place, and there was the systolic sound of mitral regurgitation of a functional nature,—a case of weakening muscle already in a state of hypertrophy. During the last ten days of the patient's life in hospital a new murmur developed,—namely, a presystolic murmur. He could not then explain it; but after death, which ensued on epileptic convulsions of the uræmic type, he discovered the cause. Looking at the heart, there was hypertrophy of the left ventricle, with some dilatation; but all around the mitral curtains there was a large mass of fibrin deposited as large as a filbert, especially behind the ventricular aspect of the posterior valve. He believed that to be the true explanation of the presystolic murmur during the last ten days. Embolism was recognized during life, due doubtless to this thrombus, and there was an enormous obstruction of the spleen, the largest he ever saw; but he was not prepared to find so large a quantity of ante-mortem clot existing in that condition, nor was he aware that such a condition could produce such a narrowing of the orifice as to produce a presystolic murmur.—*Dublin Journal of Medical Science.*

Microbes as Factors in the Formation of Foreign Bodies and Calculi.—At the Paris Biological Society, M. Galippe stated that he had examined arthrophytes removed from a knee, and had observed microbes in them the same as he had detected in calculi removed from the bladder; he had isolated them and cultivated them. This investigator is therefore confirmed in his belief that the crystallizations found in the human economy develop through the agency of microbes; then microbes are pathogenic parasites of the foreign bodies of the animal economy, whatever may be the chemical composition of these bodies and wherever they may be found.—*New Orleans Med. and Surg. Journal.*

MISCELLANY.

The private hospital of Dr. William H. Pancoast, conveniently located at 1006 Walnut Street, Philadelphia, is now open for the reception of surgical patients. The experience of the first year of this institution has proved its usefulness. It is fitted up with the modern conveniences, with baths, Flemming's electrical cabinet, etc., and has a resident physician and trained nurses always in attendance.

Drs. Warder and Montgomery have formally opened their new private operating hospital, located at 1601 Master Street. It is complete in its appointments for the treatment of gynæcological cases.

J. William White, M.D., has been elected Professor of Genito-Urinary Diseases in the Medical Department of the University of Pennsylvania.

Dr. William H. Greene has removed to 204 North Thirty-Sixth Street, Philadelphia.

Dr. S. D. Risley has removed to 1722 Walnut Street.

Dr. Addinell Hewson, Jr., has removed to 1816 Spruce Street, Philadelphia.

NOTES AND QUERIES.

A CASE OF STRYCHNINE-POISONING.

Dear Sir,—I report the following case of strychnine-poisoning merely to place it upon record.

September 26, 1884, about 7 P.M., I was hurriedly called to see E. N. G., a large, robust man, age 42, weight about two hundred pounds, who had in a condition of semi-intoxication "taken a teaspoonful of strychnine." I reached the patient one hour after the ingestion of the poison, found him suffering terribly with intense muscular rigidity, especially about the cervical, dorsal, lumbar, and sacral regions, and well-marked muscular twitching about the face, arms, and legs. No convulsions or loss of consciousness. His wife exhibited to me a one-ounce strychnine-vial one-third full of sulphate of strychnine, saying she had used not above one-third of the original amount contained in the vial for the purpose of destroying rats, and her husband had taken the rest by pouring it into a teaspoon and dissolving it in half a glass of water: which would be one-third of the original contents of the vial, or twenty grains.

Treatment, thirty grains of sulphate of zinc and one drachm of fluid extract ipecac in a teacupful of warm water, which acted promptly as an emetic. In twenty minutes the same dose was repeated, again acting thoroughly. I then gave sixty grains of bromide of potassium and thirty grains of hydrate of chloral, and repeated this dose in one hour. Two hours following, half the dose; and the next two hours, half the dose. Thus in about five hours he had taken one hundred and eighty grains of bromide and ninety grains of chloral. Further treatment was then discontinued, as patient was in a quiet sleep and muscular relaxation rapidly going on.

Called to see him the following morning at nine o'clock. Found him in the yard, splitting wood. No further unfavorable symptoms. Very respectfully,

D. DUNKLIN.

Bonne Terre, Missouri, October 4, 1886.

CALOMEL TREATMENT OF CROUP.

MR. EDITOR,—I notice in the report of the proceedings of the Eighth Annual Session of the American Laryngological Society that Dr. William H. Daly, of Pittsburg, notices the calomel-treatment of croup. He appears to consider croup and diphtheria as one and the same, and would seem to make calomel the best medicine for all kinds of croup.

In this, after considerable experience, I differ from him. For more than thirty years I have treated inflammatory croup with small doses of calomel repeated every hour, and found it the most successful practice. I have sought its alterative effects, and have restrained by a very little opium its action on the bowels, deprecating whatever debilitates. But a few dark, bilious stools are not hurtful, but rather a good omen. However, the strength of the child must be husbanded till the cough gradually softens, the breathing improves, and the voice returns.

But I do not think the calomel should be relied on alone. The important adjunct of steam should never be dispensed with, and an occasional emetic of turpeth mineral and ipecac in the very early stage is of much benefit.

I have tried the calomel-treatment in several cases of diphtheritic croup, but have not as yet seen any benefit from its use. Diphtheria seems too asthenic in its nature for the use of mercury.

The old American physicians appear to have become acquainted with the benefits of calomel in croup before Dr. Hamilton and others in Europe. See Stillé's "Therapeutics," vol. ii. p. 714.

I think Dr. Daly has done well to call attention to this important remedy in a disease that so often baffles the best skill of the best men. ALEX. W. ROGERS.

PATERSON, NEW JERSEY, September 30, 1886.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 26, 1886, TO OCTOBER 9, 1886.

MAJOR DALLAS BACHE, SURGEON.—Granted leave of absence for twenty-five days, to take effect on or about October 2, 1886. S. O. 143, Division of the Atlantic, September 24, 1886.

MAJOR JOSEPH R. GIBSON, SURGEON.—Granted two months' leave of absence from September 25, 1886, on surgeon's certificate of disability, in lieu of the unexpired portion of the ordinary leave of absence granted him in S. O. 158, A. G. O., July 10, 1886. S. O. 227, A. G. O., September 30, 1886.

MAJOR WILLIAM H. GARDNER, SURGEON.—Ordered from Department of Texas to Department of the East. S. O. 227, A. G. O., September 30, 1886.

CAPTAIN WASHINGTON MATTHEWS, ASSISTANT-SURGEON.—Granted leave of absence for one month and twelve days, with permission to go beyond sea. S. O. 232, A. G. O., October 6, 1886.

CAPTAIN DANIEL M. APPEL, ASSISTANT-SURGEON.—Assigned to duty at Fort Davis, Texas. S. O. 133, Department of Texas, September 22, 1886.

FIRST-LIEUTENANT W. W. R. FISHER, ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 230, A. G. O., October 4, 1886.

FIRST-LIEUTENANT WILLIAM C. BORDEN, ASSISTANT-SURGEON.—Relieved from temporary duty at Fort Bridger, Wyoming, and ordered to return to his station, Fort Douglas, Utah. S. O. 126, Department of the Platte, October 2, 1886.

FIRST-LIEUTENANT PHILIP G. WALES, ASSISTANT-SURGEON.—Leave of absence extended to include November 5, 1886. S. O. 226, A. G. O., September 29, 1886.

FIRST-LIEUTENANT WILLIAM P. KENDALL, ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 81, Division of the Pacific, September 24, 1886.

FIRST-LIEUTENANT CHARLES F. MASON, ASSISTANT-SURGEON.—Ordered for temporary duty at Fort Verde, Arizona Territory. S. O. 90, Department of Arizona, September 20, 1886.

COLONEL JOHN F. HAMMOND, U. S. ARMY (Retired).—Died at Poughkeepsie, New York, September 29, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FROM SEPTEMBER 12, 1886, TO OCTOBER 9, 1886.

PASSED ASSISTANT-SURGEON M. H. SIMONS, PASSED ASSISTANT-SURGEON E. NORFLEET.—Detached from the "Alert" and placed on waiting orders.

MEDICAL-INSPECTOR E. S. BOGERT.—Ordered to Navy-Yard, New York, September 28, 1886.

PASSED ASSISTANT-SURGEON D. M. GUITERAS.—To Receiving-Ship "Franklin" for temporary duty, October 3, 1886.

ASSISTANT-SURGEON A. R. WENTWORTH.—Detached from Navy-Yard, League Island, and to the U.S.S. "Galena," October 1, 1886.

ASSISTANT-SURGEON H. B. SCOTT.—Ordered to Navy-Yard, New York, October 1, 1886.

PASSED ASSISTANT-SURGEON RICHARD ASHBRIDGE.—Detached from the U.S.S. "Sahara" October 1, 1886, and granted six months' leave.

ASSISTANT-SURGEON T. A. BERRYHILL.—Detached from the Museum of Hygiene and ordered to Receiving-Ship "Minnesota."

PASSED ASSISTANT-SURGEON GEORGE ARTHUR.—Detached from the Navy-Yard, New York, and ordered to the Museum of Hygiene.

PASSED ASSISTANT-SURGEON H. T. PERCY.—Detached from the U.S.S. "Galena," proceed home, and wait orders.

ASSISTANT-SURGEON JOSEPH SHAFER.—Detached from the U.S.S. "Minnesota," and ordered to the U.S.S. "Swatara."

PASSED ASSISTANT-SURGEON J. M. STEELE.—Detached from Naval Academy and granted six months' leave.

PASSED ASSISTANT-SURGEON CLEMENT BIDDLE.—Ordered to Naval Academy, Annapolis, Maryland.

MEDICAL-DIRECTOR JAMES SUDDARDS.—Will convene Medical Board October 6, 1886.

MEDICAL-DIRECTOR J. MILLS BROWNE.—Ordered to report to President of Medical Board October 6, 1886.

MEDICAL-DIRECTOR R. C. DEAN.—Ordered to report to President of Medical Board October 6, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDED OCTOBER 9, 1886.

PURVIANCE, GEORGE, SURGEON.—Granted leave of absence for twenty-five days, September 30, 1886.

STONER, G. W., SURGEON.—Granted leave of absence for twenty-three days, October 1, 1886.

CARTER, H. R., PASSED ASSISTANT-SURGEON.—To proceed to Galveston, Texas, as inspector, September 30, 1886.

AMES, R. P. M., PASSED ASSISTANT-SURGEON.—Granted leave of absence for thirty days, to take effect when relieved, September 30, 1886.

WASDIN, EUGENE, ASSISTANT-SURGEON.—Ordered to examination for promotion, September 30, 1886.

BROOKS, S. D., ASSISTANT-SURGEON.—Granted leave of absence for thirty days, to take effect when relieved, September 30, 1886.

WILLIAMS, L. L., ASSISTANT-SURGEON.—Relieved from duty at Mobile, Alabama; ordered to Marine Hospital, Wilmington, North Carolina, September 27, 1886.

PERRY, T. B., ASSISTANT-SURGEON.—Relieved from duty at San Francisco, California; ordered to Marine Hospital, St. Louis, Missouri, October 1, 1886.

PECKHAM, C. T., PASSED ASSISTANT-SURGEON.—Granted leave of absence for thirty days, to take effect when relieved, October 5, 1886.

KALLOCH, P. C., PASSED ASSISTANT-SURGEON.—Granted leave of absence for twenty-one days, to take effect when relieved, October 5, 1886.

PETTUS, W. J., ASSISTANT-SURGEON.—To proceed to Evansville, Indiana, for temporary duty, October 8, 1886.

KINYOUN, J. J., ASSISTANT-SURGEON.—Appointed an Assistant-Surgeon October 4, 1886; assigned to temporary duty at New York, October 5, 1886.

PHILADELPHIA, OCTOBER 30, 1886.

ORIGINAL LECTURES.

ON PSORIASIS.

BY HENRY J. REYNOLDS, M.D.,

Professor of Dermatology in the College of Physicians and Surgeons, Chicago, Illinois; Professor of Skin and Genito-Urinary Diseases, Chicago Polyclinic.

Reported by WILLIAM WHITFORD.

GENTLEMEN,—This little girl, 10 years of age, comes to us to-day with a history of having had an eruption upon her body continuously for four years. Before investigating the case, however, let me enumerate some of the more important characteristics of the disease known as "psoriasis," of which this is a rather well marked case. It is not a contagious disease; it appears at any age, and in both sexes. It will occur in those of the most robust constitution as well as the delicate. The eruption always has a tendency to general or symmetrical distribution,—that is, we are liable to find an eruption on any part of the body, or, more correctly speaking, we find it upon all parts of the body at the same time. The eruption may be comparatively scarce in certain localities, though we find some patches all over the body. For instance, we find some patches on the scalp, on the extremities, and on the trunk. The disease has a tendency to chronicity, lasting in some instances for many years. The case before us has existed for four years. The lesions in the disease—by that I mean the diseased patches—are almost always round, at least they have that tendency, and vary in size from a pin-head to a silver dollar, although they usually average from the size of a ten-cent piece to about a quarter of a dollar, as in the plate I now show you. This plate represents a case of psoriasis, and thus gives you an idea as to the size of the lesion. I may next mention one of the most important characteristics of the disease,—viz., the scales covering the patches: they are always white, shining, silvery scales. The skin between each one of these little patches is always healthy,—that is, the disease terminates abruptly at the margin of the patch; it does not extend beyond the patch, as in certain other diseases. Now, when these white, shining, silvery scales are removed we find a red patch underneath; and upon a little closer examination we find some pin-point oozing of blood. There is no more important symptom in psoriasis than the one I have just alluded to (these pin-point-size droplets of blood). I may mention further with regard to the scales, that at first sight or examination we do not always find or observe their white, shining, silvery character, but by gently rubbing the patches with the finger-nail this character is clear at a glance. Another very important characteristic of the disease is that it is dry from first to last; we never have any history of moisture, as in certain other diseases of the skin. This is an important point to remember, because by knowing all the characteristics of the disease it will be impossible for you to fail in making a correct diagnosis, and there is no other way to make a diagnosis than by remembering these points. We have very few subjective symptoms in this disease: by this I mean we have very few symptoms which are manifested by the feelings of the patient, such as itching, pain, or similar sensations. This feature is so marked that the patient might have an eruption on the back or some other region and not know it, merely because there is no itching sensation, or at least comparatively none when compared with some other diseases. For this reason it is always well to examine the entire body, because the patch exhibited to you might only be the simplest indication or portion of the actual disease. The patient may have the eruption all over the body and not know it. Another very important feature is that, although it has a tendency to general distribution, it prefers certain localities of the body. The localities it favors are the extensor surfaces, such as the knees and elbows, etc. The eruption does not always remain in the same outline, but it may take on certain other shapes; the lesions may run together into one conglomerated mass, hence various names have been given to indicate the different appearances of the disease. For instance, when the eruption is very fine it is called psoriasis punctata; when a little larger in size, psoriasis guttata; when it is still larger in size, as we usually find it, it is termed psoriasis nummularis, or round, coin-size patches; and when many of these lesions all run together in one mass, it is designated psoriasis diffusa. You will re-

member that I said this disease is a symmetrical or generalized one, and that it prefers certain localities. I will mention two localities where it almost never occurs, and these are upon the palms of the hands and soles of the feet. We may say it must be rare that an uncomplicated case of psoriasis affects the palms and soles.

Now, all the symptoms I have just alluded to are not always present in every case of this disease, otherwise we would never have any trouble in making a diagnosis. We find present, however, in the case of this little girl many of the characteristics previously referred to.

It is evident from her having had it for four years that it is a very chronic disease. She gives us no history of contagion. You will notice there is a tendency to rotundity of the lesion, and that the lesions have a well-defined contour. By carefully scratching the surfaces of these scales with your finger-nails you will find they assume the white, shiny character. By removing some of the scales you will find the red, bleeding patch underneath. You must scratch it closely in order to get down to the bottom, and then you will find the characteristic pin-point-size droplets of blood, which characteristic of itself alone is almost pathognomonic. That, in addition to the white, shiny character of the scales, will enable you to almost make a good diagnosis, but it is never a good rule to follow: always sum up the diagnostic points. You will observe we have no moisture whatever. The lesions everywhere you see them are the same; we find no papules, pustules, vesicles, or anything of that kind.

Now, these characteristics are indicative of psoriasis, although you may meet with some of them in certain other skin-diseases; and it is therefore well to make a differential diagnosis, knowing that many of the symptoms found here appear in other affections of the skin. The diseases that resemble, to the greatest extent, psoriasis, are eczema, syphilitic eruption, favus, seborrhœa, and tinea tonsurans.

In psoriasis as distinguished from eczema we have no subjective sensations, while in eczema we have great itching. In psoriasis the disease is dry from first to last, while in eczema we have a history of moisture; psoriasis prefers the extensor surfaces, eczema the flexor. The patches in psoriasis are well defined, while in eczema they gradually fade away. The scales in psoriasis are white and shiny, while in eczema we may have crusts instead of scales. We have red, bleeding patches in psoriasis which we do not have in eczema. Again, eczema is to a certain extent local, while psoriasis has a tendency to general distribution. Another important differential diagnostic point is that in psoriasis, while the patches may be thick on the scalp and fringe the brow, they spare the face; the face, on the other hand, is a favorite locality for eczema. The palms and soles are very rarely involved in psoriasis, while these parts are very commonly affected by eczema. In psoriasis the skin is healthy between the lesions, while in eczema such is not the case. The lesions in psoriasis are never different in any respect from those you see in this well-marked typical case, while in eczema we may have all forms of lesion, as vesicles, papules, pustules, etc.

Psoriasis as distinguished from Syphilitic Eruptions. — We have, first, the white, shining scales; in syphilis the scales are not so shiny and white, and we may have crusts instead of scales in syphilis. The scales are loose in psoriasis, while in syphilis they are more adherent. The patch in psoriasis is always as you observe it in this case, covered completely with scales; there is not a particle of the red patch to be seen; while in syphilitic eruptions the scales are fewer and do not cover the entire patch. Here we have a syphilitic eruption; but it has not advanced to that stage where it might be mistaken for psoriasis, because the scales have not accumulated. When they do accumulate, they never cover the entire patch; the margin of the patch may be seen in its red condition. The patch in psoriasis is a bright red, while in syphilitic eruptions it is a copper color or dark red; no inflammatory color about it. We have the pin-point bleeding in psoriasis when the scales are removed, to which I have previously referred, that we do not have in syphilis. Again, as regards the lesions, we apply the same contrast as between eczema and psoriasis: viz., in psoriasis they are uniformly the same, while in syphilitic eruptions we may have many forms of lesions. It is true when the lesions first appear in syphilis they resemble those of psoriasis; but in a few months they change their character and go on to pustulation, ulceration, and destruction of the skin. The

palms and soles are nearly always affected in syphilis, and almost never in psoriasis. We have the dry character in psoriasis, while in syphilis we may have various forms of moisture, such as the formation of pus, exudation of serum, etc. Psoriasis is never a destructive disease, while syphilis always, sooner or later, results in destruction of the tissues.

A differential diagnosis between psoriasis and syphilis would hardly be necessary if syphilitic patients were always able to give a syphilitic history; but sometimes this is not the case. In the case before us, however, it would not be necessary to make a differential diagnosis between psoriasis and syphilis, for the reason that the disease has existed four years and has always remained continuously and uniformly the same; whereas in syphilis such a thing would be impossible. The lesions are well formed in syphilis, and in a few months change from one form into another. We have pustulation, ulceration, and destruction within a very brief period.

Where psoriasis is mostly confined to the scalp we have to differentiate it from certain other diseases of the scalp, such as favus, tinea tonsurans, and seborrhœa.

Favus may be at once excluded by the yellow color of the crust, by the brittle, broken-off condition of the hairs, and by their falling or pulling out readily. Favus is a disease confined almost invariably to the scalp. Further, there is this difference between the two: favus never extends down and fringes the brow as in this case, a condition which is very common in psoriasis.

Now, with regard to tinea tonsurans or ringworm of the scalp, we have a brittle, broken-off condition of the hairs; the disease is not uniformly and symmetrically spread over the scalp as psoriasis is. Besides, this disease and favus being parasitic diseases, we have the history of contagion and the discovery of the parasite with the microscope.

As regards seborrhœa, that is simply a disease of the sebaceous glands, a disease diffusely spread over the scalp; doesn't spare a particle of it: in other words, we do not have the character of healthy skin between the lesions. It affects the scalp diffusely, not in elevated patches, but is uniformly and diffusely spread all over it; it never extends down over the brow to the non-hairy portions. The scales are greasy in character; sometimes there is considerable loosening of the hair, a condition we never meet with in psoriasis of the scalp.

As regards treatment, I always think when we have made our diagnosis that most of our work is done. It may be very difficult to *cure* a disease in some cases, but it is not a difficult matter to apply the remedies laid down in the text-books: this is a very simple matter when you know what the disease is. Now, in this disease, occurring as it does in the most robust as well as the delicate, constitutional measures have but very little effect. The treatment, therefore, must be mainly local. Certain remedies, however, are given sometimes internally: for instance, arsenic given in the form of Fowler's solution. I mention this remedy because it is recommended in the text-books by various authors, rather than because I think it advisable and useful myself, for I rarely use it. You may give it in ordinary doses, five to ten drops three times a day.

As regards local treatment, I may mention first the use of *chrysarobin*, and, second, *pyrogallic acid* and various mercurial ointments. I would like you to bear in mind, however, the chrysarobin for the treatment of psoriasis, because I consider it the best. It is a specific local remedy; but before applying it let me mention some preliminary measures. With these scales covering the patch almost impermeably, it would be useless to apply any specific medication on top of them: it would not penetrate to do any good. The first thing to be done is to remove the scales. This applies to almost every skin-disease. How shall we do this? The best means of doing it, I think, is as follows. Oil the parts twice a day with any oleaginous preparation, some penetrating oily substance being preferable. I might state that vaseline is not good for this purpose: it is not a pure fat; it is gummy and resinous, and does not penetrate well. Olive-oil, or the new remedy talked of, called *lanoline*,—in fact, any oleaginous preparation to loosen and soften these scales,—may be applied twice a day; then at night a hot bath, with plenty of soap, and a good brush or rough towel to take off the scales. The next day repeat the same process, and by the second night you may have most of the scales off. Apply then the chrysarobin, twenty grains to the ounce of some inert fat or ointment;

it may be mixed with vaseline, but pure lard is better; rub it twice or three times a day. Every patch requires its individual treatment.

These scales have a tendency to re-accumulate, and in the course of a few days it will be necessary to repeat the other treatment: that is, the oiling and washing of the parts. Then again go on with your specific medication in the form of chrysarobin-ointment as before, and thus keep the process going on alternating until the lesions have dried down and the scales are not reproduced, which is sure to take place in due time. The pyrogallic acid may be used in the proportion of a drachm to the ounce, first getting rid of the scales, as previously stated.

As regards the prognosis: the disease is a chronic one. It can always be readily cured by being very thorough. This is to a certain extent beyond the control of the physician, however, because the patient or attendants have to do most of the work,—the rubbing and washing, etc.,—and if this is not thoroughly carried out you will fail in getting a speedy cure. Once the disease is cured or healed, it is all right for a time; but, without good care of the skin, it is liable to return again. This is an important feature in the prognosis, and its liability seems to be greater in cold than warm weather. Measures which tend to keep the skin active are indicated with a view to preventing a return of the disease.

ORIGINAL COMMUNICATIONS.

A CONSIDERATION OF THE BACTERIA OF SURGICAL DISEASES.

Read, by invitation, before the American Surgical Association

BY HAROLD C. ERNST, A.M., M.D. HARV.,

Demonstrator of Bacteriology in the Medical School of Harvard University.

(Continued from page 48.)

INOCULATION experiments have been made in considerable number to test the pathogenic powers of the various organisms which I have had under observation. Here, again, the method employed has been that of Koch. The place selected for the inoculation has been first thoroughly cleansed and then soaked in a solution of corrosive sublimate (one to one thousand), the hands of the operator have been sterilized with the same solution, and for inoculation a syringe like the one I have here has always been employed. It may be readily taken apart and cleansed, has no packing or other parts to become foul, and may be subjected to any temperature required for sterilization. In all cases these syringes have been subjected to 150° C. for an hour just before being used. The material for inoculation has been prepared in the case of cultures in gelatin media by simply melting the gelatin, pouring it into a sterilized capsule, and then using the required quantity in the syringe shown; or, when the cultures were upon nutrient agar-agar, by placing a portion of the culture in boiled distilled water and using this in the same way as the liquefied gelatin cultures.

The animals used were all selected for their apparent condition of good health, had all been under observation for some time before the operations, many of them having been kept in the country miles away from other animals, and were all kept under the very best possible hygienic conditions. The result of these precautions is seen in the fact that in no single case did the post-mortem examination reveal any abnormal condition of affairs that might not fairly be attributed to the activity of the bacteria which had been injected.

The animals employed were guinea-pigs. Mice were excluded because symptoms produced in them are not fairly comparable to those obtained in larger animals, and rabbits could not be obtained in Boston at any price during the time that I was carrying on my inoculation experiments.

The bacteria with which I have experimented are the following:

The Staphylococcus aureus and albus.
The Staphylococcus pyogenes citreus.
The Erysipelas coccus.
The Streptococcus cereus flavus.
The Streptococcus pyogenes.
The Micrococcus pyogenes tenuis.
The Bacillus pyogenes fluorescens.

The records of the inoculation experiments are as follows:

Inoculation experiments with the Staphylococcus pyogenes aureus.

I. A full-grown healthy guinea-pig inoculated in a vein of one leg made prominent by partial constriction. Two drops of a pure culture in gelatin of the sixteenth

generation of the Staphylococcus aureus from the first case reported (ununited fracture of the arm) were employed. The cultivations had been conducted out of the body for over a year. Death occurred in less than twelve hours. The autopsy showed very little change in the internal organs: the heart was much distended and full of fluid blood. Cover-glass preparations showed the blood to contain numerous micrococci, and cultivations made from the blood in nutrient gelatin showed the presence of the Staphylococcus aureus.

II. An adult guinea-pig inoculated with the same culture as the preceding, under the skin of the abdomen, two cubic centimetres of the cultivation in gelatin being used. Killed in ten days. An abscess the size of a marble, filled with thick yellowish pus, was found just under the point of inoculation. Cover-glass preparations of this pus and sections of the abscess-wall showed the presence of large numbers of micrococci. Cultivations were made in gelatin and upon agar-agar (37° C.) from the abscess, from the blood, and from the peritoneum. Very free growth of the Staphylococcus aureus was obtained from the first, but neither the cultivations nor cover-glass preparations from the blood or peritoneal cavity showed the presence of any bacteria whatever.

III. A guinea-pig inoculated with the same amount and material as the preceding, except that the inoculating needle was plunged deep into the abdominal cavity. Dead in ten hours. Examination showed only a marked redness about the point of inoculation, and that the needle had not penetrated the intestines. The heart was much distended with fluid blood. Cultivations were made from the point of inoculation, the peritoneal cavity, and the blood of the heart, and liver, and spleen, in gelatin and agar-agar. No growth appeared in any of the tubes except those sown from blood, and this growth proved to be the Staphylococcus aureus.

The contrast between the results of the last two experiments is very marked,—in the first case the organisms being found only in the abscess and not in the blood, and in the second case being only in the blood and not about the point of inoculation. In the first case the effect was purely local, and in the second it was general and of a septicæmic character.

IV. Staphylococcus pyogenes aureus from a perinephritic abscess (Case II.), seventeenth generation, cultivated for over a year. Two cubic centimetres of nutrient gelatin containing a culture were injected under the skin of the back of a guinea-pig. Killed in four days. An abscess about an inch long by one-half inch broad, and three lines in thickness, full of thin yellow pus, was found just beneath the skin. Cultivations made from this showed the presence of the Staphylococcus aureus, and microscopic examination showed masses of micrococci in the pus and in the abscess-wall. Cultures from the blood gave no result whatever.

V. The same amount and material were employed as in the preceding experiment, and the inoculation was made subcutaneously over the abdomen. In two days death occurred. Section showed a very marked congestion of all of the abdominal viscera, with an abscess about one-half inch in diameter at the point of inoculation. Cover-glass preparations of the pus and sections of the abdominal wall showed the presence of masses of micrococci, whilst cultivations in nutrient gelatin and on agar-agar gave abundant growth of the Staphylococcus aureus. Cultures of the same organism were also obtained from the blood, and cover-glass preparations of the blood showed it to contain a number of micrococci.

VI. Staphylococcus aureus from a perinephritic abscess (Case IV.), eighteenth generation, cultivation extending over eight months. Two cubic centimetres of a culture in nutrient gelatin were injected into the abdominal cavity of a healthy guinea-pig. Killed on the fourth day. The animal was moribund. Section showed the presence of an extensive purulent peritonitis, and microscopic examination of the pus together with cultivations made from it demonstrated the presence of the Staphylococcus aureus. Cultures from the blood and microscopic examination of the same revealed absolutely nothing abnormal; no bacteria were found.

VII. Staphylococcus aureus. The same experiment as the preceding was performed in the same way, and with the same result, except that the animal was killed on the second day. The inflammatory process with the suppuration seemed to be, if anything, more extensive. The same results were obtained by microscopic and cultivation experiments; the Staphy-

lococcus aureus was found in the pus but not in the blood.

VIII. Staphylococcus aureus from a psoas abscess (Case XIV.), the twelfth generation, cultivation out of the body extending over seven months. Four cubic centimetres of a solution in distilled water of one drop of a pure culture in nutrient gelatin were injected into the abdomen of a healthy guinea-pig. In two days a swelling the size of an English walnut could be felt under the point of inoculation. Killed at the end of twelve days. The remains of an abscess were found, the cavity having almost closed; only a few drops of thick yellowish pus were obtained. Microscopic examination of this, however, showed it to be a mass of micrococci, with a small proportion of cell-nuclei. Cultivations from this material gave only a feeble growth, which was afterwards determined to be the Staphylococcus aureus. Cultures from the blood remained sterile.

IX. Staphylococcus aureus. The same generation and solution as in the preceding case were employed, but only one cubic centimetre was injected. There was no result observed. The animal was killed on the fourth day, when only a slight redness at the point of entrance of the inoculating-needle could be made out. Cultures made from the blood and from the peritoneum remained sterile.

X. Staphylococcus aureus. Two cubic centimetres of the solution used in the two preceding cases were injected into the knee-joint of a full-grown guinea-pig (right posterior). Death on the following day. Cultures from the blood and from the joint gave a free growth of the Staphylococcus aureus; the joint itself showed no suppurative action, but was the seat of intense redness, with great swelling and some infiltration of blood. A small vessel had undoubtedly been ruptured during the inoculation, and some of the infective material had in this way got into the blood-current.

XI. Staphylococcus pyogenes albus from an abscess at an ununited fracture of the humerus (Case I.), fifteenth generation, cultivated out of the body for thirteen months. Two cubic centimetres of a culture in nutrient gelatin were injected under the skin of the back of a full-grown guinea-pig. On the second day a slight swelling was observed at the point of inoculation. The animal was killed on the fourth day, when section showed nothing abnormal in the abdominal or thoracic viscera. There was an abscess under the skin at the point of inoculation, about two centimetres in diameter, filled with quite fluid pus of a distinctly lighter color than that found in any of the preceding experiments. There was not much change in the tissues about the abscess; a very slight swelling, extending one or two millimetres from its boundaries, being all that was noticeable. Cultivations and microscopic examinations showed the presence of the Staphylococcus albus in the pus and in the abscess-wall, but not in the blood.

XII. Staphylococcus pyogenes albus. The same generation and cultivation were employed as in the preceding case. A drop of a culture in nutrient gelatin was placed in ten cubic centimetres of water, and two cubic centimetres of this were injected subcutaneously over the abdomen. The animal was killed on the fourth day, but no bacteria were found, and the point of entrance of the inoculating-needle was barely visible except upon close examination.

XIII. Staphylococcus pyogenes albus from a perinephritic abscess (Case II.), twelfth generation. In this and the following experiment, XIV., two cubic centimetres of a pure culture in nutrient gelatin were injected subcutaneously over the abdomen. Both guinea-pigs were killed at the end of a week. In both were found small abscesses at the point of inoculation from one to three centimetres in diameter, and filled with a thin yellowish-white pus. Cultivations showed the presence of the Staphylococcus albus in both, but in neither of them was anything found in the blood.

XV. Staphylococcus pyogenes albus from a diphtheritic vagina (Case VI.), thirteenth generation, cultivated outside of the body for nine months. A minute portion of a cultivation in nutrient gelatin (one-half of a cubic centimetre), with two cubic centimetres of freshly-boiled distilled water, was injected subcutaneously in the right abdominal region of a guinea-pig. A small lump was felt under the point of inoculation upon the following day. The animal was killed at the end of ten days. The lump had apparently decreased in size, for upon section it was found to be barely as large as a pea, and contained a few drops of thin pus. Microscopic ex-

amination showed that there were large numbers of micrococci in the pus and in the walls of the abscess. Cultures in nutrient gelatin and upon agar-agar showed that they were the Staphylococcus albus.

XVI. This experiment was a simple repetition of the preceding. The same culture and the same amount were used in the same way, and the results were precisely the same.

XVII. Staphylococcus pyogenes albus, fourteenth generation, from a case of diphtheria of the vagina (Case VII.), cultivated outside of the body for over nine months. One cubic centimetre of a solution of a culture upon agar-agar in distilled water was injected deep into the muscle of a leg of a guinea-pig. The animal was killed at the end of six days, when a clearly-defined abscess, about three centimetres in diameter, was found lying between the muscles, with practically no inflammatory tissue surrounding it. The pus was of the usual character, fluid, and of a rather light yellow color. Cultivations made from it gave colonies of the Staphylococcus albus, and microscopic examinations showed many micrococci in the pus and abscess-walls. Neither of these methods of investigation gave any result when applied to the blood and internal organs.

XVIII. Staphylococcus pyogenes albus. The same cultivation and from the same source was employed in this as in the preceding case. A larger amount, however,—five cubic centimetres,—was injected subcutaneously in the left abdominal region. The next day a very marked swelling could be seen, and upon the third day this swelling broke through the skin and commenced to discharge. Section showed a large abscess just below the point of inoculation. Cultivations gave the Staphylococcus albus and two varieties of bacteria, which were probably the result of contamination from the air, especially as sections of the abdominal wall showed micrococci only.

XIX. Staphylococcus pyogenes albus cultivated from a psoas abscess (Case IX.), fifteenth generation, propagated outside of the body for more than nine months. One cubic centimetre of a culture in nutrient gelatin was injected under the skin of the back of a guinea-pig. The animal was killed on the sixth day, when an abscess the size of a small marble was found at the point of inoculation. Cultures from the pus gave a free growth of the Staphylococcus pyogenes albus; nothing was found in the blood and internal organs.

XX. and XXI. The same cultivation was used in the same quantity for inoculation into the abdomen of two other guinea-pigs. They were examined on the fifth day, and in both of them localized abscesses were found at the seat of inoculation, which were shown to contain the Staphylococcus pyogenes albus by cultivation experiments and by microscopic examination of the pus and of the abscess-walls.

XXII. Staphylococcus pyogenes albus from a psoas abscess (Case XV.), fourth generation, grown outside of the body for about three weeks. A guinea-pig was inoculated on the top of the head with two cubic centimetres of a culture of this organism in nutrient gelatin. A slight swelling the size of a pea made its appearance at the end of the first twenty-four hours. Examined on the third day, an abscess about two centimetres by three in dimensions was found just under the skin, and not involving any of the deeper tissues. It contained the Staphylococcus pyogenes albus, as demonstrated by cultivation experiments.

XXIII. and XXIV. The same organism from the same source carried through four more generations, making the eighth, was injected into the abdominal cavity of two guinea-pigs, one cubic centimetre being used. Examination upon the seventh day. In one of the animals a small abscess, the size of a pea, containing a few drops of light yellow pus, was found lying just below the stomach. The abscess was clearly defined, and the neighboring structures were not involved. In the other animal an abscess about twice the size of the preceding was present just above and in front of the bladder. This also was as definitely defined as the other. Cultivation experiments showed the presence of the Staphylococcus pyogenes albus in both lesions.

XXV. Staphylococcus pyogenes albus (Case XVIII.) from an abscess of the inguinal glands, third generation, cultivated out of the body for three weeks. A guinea-pig was inoculated with one cubic centimetre of a culture of this organism in nutrient gelatin. The inoculation was subcutaneous and in the dorsal region. The animal was killed on the sixth day. An abscess three centimetres in diameter was found under the skin at the point of

inoculation, and microscopic examination showed the walls and the pus to be full of micrococci, which upon cultivation were seen to be the Staphylococcus albus.

XXVI. The fourth generation of the same organism employed in the preceding experiment was used to inoculate a guinea-pig in the abdominal cavity, one cubic centimetre of the culture in nutrient gelatin being the quantity injected. It was killed on the third day, when, as in the other cases, an abscess was found lying in the abdominal cavity just anterior to the kidney and without implication of any of the surrounding tissues. Cultures from the pus it contained showed the presence of the Staphylococcus pyogenes albus; cultures from the blood gave no result.

XXVII. This experiment was the same as the preceding, and gave the same results in every particular.

XXVIII. Erysipelas coccus (Case V.), twenty-second generation, cultivated outside of the body for more than a year. A minute portion of a colony on nutrient agar-agar was diffused in sterilized distilled water, and two cubic centimetres of the mixture were injected into the skin of the top of the head of a guinea-pig, which had been previously shaved and washed with corrosive sublimate. A marked redness made its appearance on the following day, accompanied by much swelling of the skin. An incision into the skin was made, and cultivations from the edges of the wound gave a plentiful growth of the Erysipelas coccus.

XXIX. and XXX. The same generations and material were used in both cases. The inoculations were made subcutaneously in the abdominal region in guinea-pigs; they were followed by some swelling and tenderness of the skin and general languor and disinclination to movement. Section on the third day showed marked emaciation everywhere, and much congestion of the skin of the abdomen, with some œdema. Cultures made from the skin showed the Erysipelas coccus in abundance, and sections of the infiltrated tissue were found to contain numbers of these organisms lying in the lymph-channels and between the cells of the deeper layers.

XXXI. Staphylococcus pyogenes citreus (Case III.), twentieth generation, cultivated out of the body for over a year. Two cubic centimetres of a culture in nutrient gelatin were injected into the abdominal cavity of a guinea-pig. The animal was killed on the fourth day, when a slight infiltration about the point of inoculation was found, but no suppuration and no bacteria could be demonstrated anywhere in the animal's body.

XXXII. The same material in the same amount was employed for injection into the abdominal cavity of a second guinea-pig. The animal was killed on the second day, when an abscess the size of a pea was found among the intestines, which were adherent to its borders, and the whole abdominal cavity was much congested. Cultures from the pus in the abscess and from the blood gave colonies of the Staphylococcus pyogenes citreus.

XXXIII. A small portion of a culture of the same organism upon nutrient agar-agar was mixed with four centimetres of sterilized distilled water, and two centimetres of the mixture were injected under the skin of a guinea-pig in the abdominal region. The animal was killed on the third day, when an abscess about two centimetres in diameter was found at the seat of inoculation. Cultures from the pus of this gave colonies of the Staphylococcus citreus, but nothing was found in the blood.

XXXIV. Staphylococcus cereus flavus (Case XIV.), seventh generation, cultivated out of the body for six weeks. This organism is one described by Passet ("Untersuch. ü. die articl. der eitrigen Phlegmonen des Menschen," Berlin, 1885), and which he considers to be active in the production of suppurative processes. He was, however, unable to produce any specific results in inoculation experiments with it, and the two which I made likewise gave negative results. The experiments were alike in character, and consisted in the injection into the abdominal cavity of guinea-pigs of two cubic centimetres of a culture in nutrient gelatin. Section of the first on the third day after the inoculation showed no result whatever, and cultivations from the blood and abdominal fluids failed to show the presence of any bacteria. The (XXXV.) second guinea-pig, killed on the second day, gave equally negative results, neither macroscopic, microscopic, nor bacteriological observations showing the presence of anything abnormal. The negative evidence to be offered in the case of this bacterium

does not, therefore, permit us to say that it has any pathogenic properties which can be demonstrated by ordinary methods; the only fact which is known is that of its rather uncommon occurrence in suppurative processes. Passet's specimen was found in a case of chronic suppurative periostitis of the ulna in a phthisical male subject twenty-seven years of age. Mine occurred in the case of psoas abscess in a child which was supposed to be connected with disease of the spine.

XXXVI. Streptococcus pyogenes (Case XVI.), sixth generation, cultivated out of the body for six weeks. One cubic centimetre of a culture in nutrient gelatin was injected into the shoulder of a guinea-pig. In two days, examination showed extensive infiltration of the muscles about the point of inoculation, with free suppuration and a collection of pus in the axilla. Cultures from the places affected gave colonies of the Streptococcus, and microscopic examination of the pus showed the organism in large numbers.

XXXVII. and XXXVIII. One cubic centimetre of the seventh generation of the same organism was injected into the abdominal cavity of two guinea-pigs. They were found almost moribund on the morning after the inoculation. Section showed an extensive inflammation over the whole abdominal cavity, with slight suppuration compared to the extensive nature of the process. Cultures from this region and from the blood of the heart gave abundant growth of the Streptococcus.

XXXIX. The same generation as was employed in the last two cases was used in this one. A very minute portion of a colony upon agar-agar was mixed with water and injected subcutaneously into a guinea-pig. Section upon the third day showed an extensive suppurative infiltration beneath the skin, extending out in all directions from the point of inoculation. The lymphatics all through the abdominal cavity were much congested, as were the spleen, liver, and kidneys. Cultures from the pus and from the blood in each of the organs, as well as from the heart, gave free growth of the Streptococcus pyogenes.

XL. Micrococcus pyogenes tenuis (Cases XVII. and XVIII.). Cultures of this organism were made as related in the account of the cases from which they were obtained. The fourth generation from (Case XVII.) an abscess of the arm was inoculated (one cubic centimetre of culture in nutrient gelatin), after cultivation for three weeks, subcutaneously in one guinea-pig, with no result. The third generation, from Case XVIII., a "bubon d'emblée," was injected in the same quantity and in the same way into a guinea-pig. Section in three days showed a very slight infiltration of the tissues about the point of inoculation, but cultures from this situation remained sterile. Microscopic examination showed a few of the organisms lying in the infiltrated portion of the tissues; so very few, however, as to be exceedingly difficult of detection.

In speaking of Case XV.—a psoas abscess in a child—mention was made of an organism which was found in the cultivations from that source which presented certain peculiarities under cultivation which I believe have not yet been spoken of by other observers. It first attracted attention by the peculiar green fluorescence which it imparted to the gelatin culture-medium throughout the entire diameter of the test-tube, whilst it did not liquefy the gelatin, in this respect differing from the bacillus of green pus, which does produce liquefaction of that material. The only other organism with which it can be confounded by the macroscopic appearances of its cultures is the *fluorescent bacillus*, which produces the like pigmentation of the gelatin-culture medium. This color extends beyond the limits of the colony, and bacteria are not found in it, and it seems to be due to the action of some product of the growth of the organism upon the nutrient material. In fact, so far as I have yet investigated this bacterium there appears to be no difference between the appearances of its cultures in nutrient gelatin, agar-agar, and blood-serum, the main point being that, so far as I am aware, the fluorescent bacillus has no pathogenic properties, whilst the organism which I am describing seems to have a very active influence upon guinea-pigs. Microscopically, the differences are marked, however, for this organism is a short bacillus, appearing singly, in pairs, and in chains from 0.3 μ to 0.4 μ in length, whilst very often its appearance in the tissues is that of a long rod, it being exceedingly difficult to decolorize the chain in this situation just enough to show the individual members. It grows

well at the ordinary temperature of the room, much more rapidly at 37° C. It does not liquefy gelatin, but produces a grayish-white line in the track of a needle, and in a few days a marked greenish-yellow fluorescence extending throughout the substance of the nutrient material. On agar-agar it produces in from thirty-six to forty-eight hours a grayish-white colony, elevated above the surface of the material, which has a peculiar soft, glistening appearance. The same greenish-yellow fluorescence makes its appearance throughout the substance of the culture medium. Plate-cultures made in nutrient gelatin show round points of a whitish color in two days or more; the gelatin is not liquefied, and very soon presents the same greenish-yellow fluorescence as when the cultivations are made in test-tubes.

The limits of time at my disposal have been so narrow that I have not been able to investigate this organism as thoroughly as I should wish. What I have said of it is merely a preliminary description, which I hope to fill out more in detail at a future time, and will merely mention, in addition, the inoculation experiments which I have made with it.

A guinea-pig was inoculated in the abdominal region (subcutaneously) with two cubic centimetres of the sixth generation of this organism in nutrient gelatin. It died on the following day. On section four to six hours after death, there was no localized suppuration, but the entire front of the body was as dry as if there had never been any fluids there. The skin could be readily lifted from the underlying tissues without any dissection whatever, and the muscles, particularly the pectorales, were as distinct from each other as if they had been carefully separated and all the intermuscular substance removed. In fact, the appearances were those of commencing putrefaction; there was a slight œdematous condition of the subcutaneous cellular tissue of the back. Cultures from this œdema, from the blood of the heart, and from incisions in various organs, gave colonies of the organism of which we are speaking. A little later, eight guinea-pigs were inoculated in the same way as the preceding, with the eighth generation of this bacterium. Section, in from four to six days, gave uniformly the result which is illustrated in these specimens. Nothing was found at the seat of the inoculation, but in every case the liver and spleen were found to be enlarged and the seat of a greater or less number of small abscesses. Occasionally the kidney seemed to be somewhat swollen also, but no abscesses were to be seen. Cultivations from the blood and from the seat of inoculation always remained sterile. Colonies from these abscesses always produced the peculiar fluorescence and microscopic appearances which I have attempted to describe. These include all the experiments which I have yet made in this direction. I have thought it well to speak of them here, because they seem to bear out my assertion that the end is not yet in regard to the isolation of new species of bacteria connected with the suppurative processes in man, and because I thought it might interest the members of this Association to have these facts presented to them.

The conclusions which may be drawn from the work here reported are as follows:

I. The cultivation experiments conducted over so long a space of time, with the successful inoculations at the end of that time, indicate very plainly the retention of the pathogenic power of these organisms indefinitely. Their virulence is just as great at the end of a year, and after being passed through a large number of generations, as it is when taken from their original birthplace.

II. Their permanence of form is also well demonstrated, their microscopic appearances and peculiarities under cultivation undergoing absolutely no alteration.

III. In order to obtain either a modification of their pathogenic powers or of their morphological properties,—if this is possible at all,—some different methods of observation must be used than those which have hitherto been employed.

IV. The probabilities indicate that work in this direction is not likely to be attended with much success: *a*, because no modifications have yet been observed, and, *b*, because prophylaxis furnishes the easiest and most generally applicable safeguard against the activity of these lower forms of life.

V. So far as the experiments go, they tend to show that no form of the suppurative process in man is unattended by bacteria, and that the inoculation in the lower animals of pure cultures of these

bacteria is followed by more or less acute and extensive suppuration.

VI. This conclusion—that of the dependence of the suppurative process upon the activity of bacteria—is very strongly supported by the most recent evidence of the best equipped workers in the field of bacteriological research.

VII. Very different clinical phenomena may be produced by the same organism; all of these phenomena, however, coming under the general head of the inflammatory and suppurative processes.

VIII. The differences in the results produced by the same micro-organism in different individuals depend upon causes foreign to the bacterium itself.

IX. These differences are the result of differences in the amount of the infectious material received into the system, and of the locality or lesion by which it gains access, and also by variations in individual condition,—the "personal equation" being a very large factor in making up the sum of any results in bacteriological work.

Certain investigations upon the resistance to various destructive reagents of some of these forms of bacteria have been made by Passet (*l. c.*). The organisms used were mainly the Staphylococcus pyogenes aureus and the Streptococcus pyogenes, these being selected as the most common and the most active of their class; and the reagents employed were salicylic and carbolic acids and corrosive sublimate. The results indicated the superiority of corrosive sublimate as a destructive agent, six drops of a one-per-cent. solution of this material preventing the development of either of the bacteria mentioned in ten cubic centimetres of nutrient gelatin, whilst it required twenty-five drops of a five-per-cent. solution of carbolic acid or one hundred drops of a solution of salicylic acid (one to three hundred) to do the same thing.

REPORT ON THE PROGRESS OF OTOLOGY.

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PAINLESS OR ONLY SLIGHTLY PAINFUL ULCERATION AND PERFORATION OF THE MEMBRANA TYMPANI, PROBABLY OF A TUBERCULAR ORIGIN.

DR. ALBERT H. BUCK (*New York Medical Journal*, August 21, 1886) during the past year has observed three cases with the above-named features, which he believes to have been characteristic of tubercular origin.

His conclusions respecting the distinguishing features in tubercular inflammation of the middle ear, in its incipient stages, are—

1. The tendency to localize itself in the vicinity of the upper and posterior portion of the membrana tympani. Whether the disease originates in the tympanic mucous membrane, in the fibrous structures of the membrana tympani, or in the bone of the immediate vicinity, Dr. Buck is unable to say, though he suspects that in some cases the bone-substance is the starting-point of the disease.

2. The marked insignificance of the pain, or even its entire absence.

3. The intolerance of any but the simplest and gentlest local remedial measures.

Dr. C. J. Blake, of Boston, in a letter to Dr. Buck, *à propos* of this paper, furnishes some new data, and suggests an explanation of the preference shown by the disease for the upper region of the tympanic cavity.

He has had several cases of purulent inflammation of the middle ear accompanying pulmonary tuberculosis, and characterized by the following symptoms:

1. Painless course of the inflammatory and destructive process, which occurred in the upper portion of the tympanic cavity, beginning with congestion of the inner end of the external auditory canal and membrane of Shrapnell and circumjacent region, followed within forty-eight hours by œdema of the parts mentioned, ulcerative perforation of the membrane of Shrapnell, rapid sloughing, and free purulent discharge.

2. But two of the cases were examined for bacilli in the discharge from the ear, and in neither case were bacilli found.

Dr. Blake thinks the initial impulse to the implication of the middle ear, occurring usually in the upper part of the tympanic cavity, comes from vaso-motor inhibition, reflexly from the lung-disease in that tract supplied largely by the tympanic branch or branches of the carotid, rather than, as Habermann * supposes, from infection from the sputa.

TREATMENT OF SUPPURATION OF THE TYMPANIC CAVITY.

Dr. C. Miot, in an article read before the French Otological and Laryngological

* Präger Med. Wochenschrift, No. 6, 1885.

Society, April, 1886 (*Annales des Maladies de l' Oreille*, etc., July, 1886), makes some interesting and valuable suggestions regarding the treatment of suppuration of the middle ear. He is not entirely in favor of either an exclusively moist or dry treatment, but seems to rely upon the instillation of drops for the cure of this disease rather than upon the insufflation of powders. He then mentions some of the solutions which have proved most useful in his hands. The best antiseptics are not always the most efficacious remedies in this disease, according to his observations. Preference is given to a strong decoction of poppy-heads, to which one part of boric acid is added to each one hundred parts of the fluid, in order to prevent the decomposition of the decoction. Solutions of cocaine rapidly calm the ear-pain in the majority of cases, but they sometimes augment the congestion of parts already inflamed, by paralyzing for too long a period the nervous supply.

In the preparation of astringent and antiseptic solutions preference is given to those made with pure glycerin, because they do not readily undergo changes and are tolerated by the mucous membrane of the ear.

As examples are given—

1. Borax 1 to 3 gr., 30.
2. Subacetate of lead 1 to 3 gr., 30.
3. Sulphate of aluminium 1 to 2 gr., 30.
4. Crystallized phenic acid 3 to 30 gr., 30.

To these solutions chloral may be added in varying proportions in order to render them more efficient.

5. Water oxygenated to seven volumes (formula of Dr. Baldy) and mixed with three, five, or ten parts of water.

Caustic Solutions.—As instillations are employed one-twentieth to one-tenth aqueous solutions of nitrate of silver, or a one-fifth to one-third of chromic acid. For touching diseased surfaces, one-tenth to one-half strength solutions of nitrate of silver, and of chromic acid from one-third to saturation, and also a saturated alcoholic solution of crystallized phenic acid.

Substances which make the most efficacious powders for insufflation are boric acid, iodoform, sulpho-carbolate of zinc, and sugar (*candi*),—the former either separate or commingled with sugar or magnesia. Powdered sugar acts well as a detergent upon surfaces covered with granulations. Iodoform and sulpho-carbolate of zinc are of service in strumous cases, in which the mucous membrane granulates easily and becomes fungoid. We should be on our guard when using iodoform, and cease employing it as soon as it seems to produce constitutional disturbances, especially in the digestive tract.

Indirect Means.—In acute cases, with pain, abstraction of blood by means of leeches is considered more prompt than irrigation by hot water.

We cannot agree with the author in his views as to the beneficial effect of derivatives on the mastoid (blisters, tincture of iodine, and the galvano-cautery) in controlling chronic suppuration and the growth of granulations in the middle ear.

General Treatment.—It is believed that suppuration of the tympanum can be cured in the majority of cases by local treatment. General treatment is useful only in modifying the diathesis of the subject, and to prevent relapses or to render them less frequent.

The treatment of adjacent parts which influence the state of the ear is considered an absolute indication. Suppuration of the tympanic cavity must, of course, be considered in its chronic and acute stage. The latter must be modified at once, as can be done by the use of antiphlogistic methods.

When the perforation is small, the inflammation may abate with ordinary treatment. On the contrary, if the running from the ear persists, with exacerbations more or less frequent, the perforation should be enlarged, in order to facilitate the escape of pus and the ready treatment of the drum-cavity.

In cases of simple otitis media suppurativa without much swelling of the mucous membrane, solutions of borax, subacetate of lead, and of sulphate of alumina, as well as insufflations of powdered boric acid when the discharge is not copious, may be employed. When the mucous membrane is more thickened, the same solutions, with the addition of chloral, may be used, alternating their application every eight or ten days. When powdered boric acid is to be used, it must be put into the canal in quantity sufficient to exclude all air, and renewed according to demand.

In cases of small granulations on the surface of the auditory canal, the membrana tympani, or the mucous membrane

of the drum-cavity, it is recommended to lightly scarify and apply caustic solutions,—a method, in our opinion, devoid of any merit, as insufflations of boric acid, either alone or associated with hydrastin or resorcin, will accomplish their destruction more easily and simply. The cure the author attributes to the scarification is most probably due to the alkaline washes and the use of borax and resorcin solutions, and the final dressings with powdered boric acid.

Polypi should be promptly removed, and "some hours afterwards or the next day the pedicles should be cauterized with chromic acid, carbolic acid, nitrate of silver, or the galvano-cautery, according to the effect desired." Why this delay of hours in touching the pedicle is advised we are not informed, but we believe it an unusual delay. In the interval of the cauterizations, which are recommended from every two to ten days, the instillations already named are advised, and, when the discharge becomes slight, the insufflation of powdered boric acid.

In the chronic state the perforation may be narrow and indicative of different conditions. Such cases are divided by the author into several categories.

In the *first* group the suppuration has lasted for many years, and has never ceased, notwithstanding the prolonged and rational treatment. In such instances it is fair to assume the presence of a sequestrum or of granulations which maintain the discharge. Before, however, instituting any special treatment for their removal,—like, for example, sulphurous acid, as recommended by Andeer,—we are advised to prescribe the astringent solutions considered the best by Miot,—viz., sulphate of alumina and chloral. The discharge may cease in a few days with this treatment.

In a *second* group a discharge may have existed for a long time, and about the edges of the perforation there may be a polypoid mass. Upon the destruction of these granulations by astringent solutions the discharge ceases in a few days.

In a *third* group a neoplasm in the drum-cavity may have extended through the perforation, and have developed in the auditory canal. After removing all the growth obtainable outside of the drum, and cauterized the remnants in the drum-space, the neoplasm may reappear notwithstanding numerous applications of the galvano-cautery. Sometimes a more energetic effect is obtained by the use of crystallized carbolic acid, a less efficient one by chromic acid. If the masses still grow afresh, the perforation in the membrana must be enlarged by means of the galvano-cautery, according to Miot, and then we shall be able to get at the polypoid growth and destroy it.

In the *fourth* group not only the membrana flaccida (Shrapnell's membrane) is destroyed, with neighboring parts, but also very often the upper wall of the osseous canal near the drum is eroded. These suppurations are very fetid. If treatment is not soon followed by relief, the following course is recommended. A delicate and flexible laminaria probe is introduced into the drum-cavity and passed in all directions. Generally neither carious bone nor polypi are met, but a soft, pultaceous, very fetid, purulent mass, resembling softened tubercle, filling the entire drum-cavity. As it is not easy to get this mass from the drum-cavity, a small counter-opening two to three millimetres wide should be made with the galvano-cautery, which will permit of still further examination of the tympanic cavity with a probe, but also to inject an alkaline wash or an antiseptic morning and evening.

The following are recommended:

1.—Tinct. of iodine, 4 grms.;
Distilled water, 40 grms.;
Iodide of potash, 1 grm.;
Rectified alcohol, 2 grms.

2.—Sulphate of alumina, 1 grm.;
Distilled water, 40 grms.;
Hydrate of chloral, 0.03 grm.

3.—Crystallized carbolic acid, 3 grms.;
Pure glycerin, 30 grms.

If these preparations do not give relief in a few weeks, there should be no hesitation in employing injections of iodine or of nitrate of silver in solution, in strength of $\frac{1}{40}$ to $\frac{1}{20}$, taking care to neutralize the excess of caustic and to wash out the masses of chloride of silver, as they are considered irritants. By a repetition of the caustic injections, and alternating them with astringents and antiseptics, and "by the employment of revulsives on the mastoid," it is possible to check discharges of long duration. In the *fifth* group the

membrana may be perforated in more than one spot, and the introduction of a probe sometimes reveals the presence of a sequestrum acting like a foreign substance. In such an instance the portion of the membrane connecting the two perforations should be incised and the sequestrum removed.

EXSECTION OF THE MALLEUS.

Kretschmann has reported three cases of exsection of the malleus, during the past year, for caries (*Universitäts-Ohrenklinik zu Halle*, 1885; *Archiv für Ohrenh.*, Bd. xxiii., July, 1886).

The first case was that of a man 44 years old. In addition to the caries of the hammer there was a perforation in Shrapnell's membrane, and a second one beneath the end of the manubrium. The suppuration was slight, but fetid. The patient complained chiefly of tinnitus and dizziness, in addition to hardness of hearing. The malleus, with the entire remnant of the membrana tympani, was removed without anæsthesia. The hammer, examined carefully after removal, was found to be carious throughout. The subsequent treatment consisted in syringing through the Eustachian tube. The dizziness and tinnitus ceased after this operation. In fourteen days the patient ceased to return for observation.

The two other cases were those of young girls 16 years old, in whom the entire membrana tympani was wanting. The fully-exposed malleus was in a horizontal position and was *strikingly white*. At the end of the malleus there was found on several occasions a drop of pus.

In one of these cases the removal was effected with difficulty, without any noteworthy effect upon the suppurative process; and in the other case the operation was not fully completed.

Dr. Samuel Sexton, of New York (American Otological Society, July 20, 1886), has recommended

A NEW OPERATION FOR THE RADICAL CURE OF CHRONIC INFLAMMATION OF THE MIDDLE EAR-TRACT.

The author, having observed that in a number of cases where the transmitting mechanism had been lost a spontaneous cure of the purulent running ensued, concluded to imitate the curative action of nature and remove the ossicles, in order to insure thorough drainage from the tympanic attic and other parts of the tympanum.

The operation was tried on a case of long-standing purulent inflammation of the attic of the tympanum. In order to avoid the danger of using an ordinary lamp in connection with the administration of ether, an electric lamp was employed. Since then Dr. Sexton has performed the operation, as he informs me in a recent letter, in thirty cases.

The first step in the procedure is to separate the membrana flaccida (Shrapnell's membrane) from the edge of the auditory plate, and to remove any portion of the membrana vibrans still adherent to the auditory ring. If the malleus and incus remain *in situ*, it is well to divide the tendon of the tensor tympani, if still adherent.

The chorda tympani is then divided, if present, where it enters the tympanum at the pyramid, and also at its exit into the canal of Huguier. The long process of the malleus, with the chorda, may also be detached and removed from the glenoid fissure. The detached portions may be removed with forceps. It will be frequently found that the incus has been detached, but still remains. It may be removed with the attic-scraper, which is to be introduced from below and passed up along the inner wall of the tympanum, when the distal extremity may be carried over the incus or malleus, if the latter bone remains, and by traction the ossicles can be detached. Polypoid masses, granulation-tissue, and the products of inflammation may now be removed with the cutting curette or cutting forceps, and the parts dressed with a four-per-cent. solution of cocaine to relieve pain. There is usually free bleeding during the operation, often sufficient to protract it and increase its difficulties. "The effect of injury or destruction to the chorda tympani nearly always manifests itself in some way," but in Dr. Sexton's experience it had never been of serious import. Disturbances of taste sometimes follow the operation, but they gradually disappear and leave the sense of taste unaffected.

The drum should be kept well cleansed, and light dressings of powdered boric acid applied until healing takes place. The salicylic acid powder may also be applied as freely as it can be borne. In some

cases this powder seems to irritate at first, but gradually a tolerance is established.

In the cure resulting from this treatment dermic transformation of the tympanum takes place, but mucus may occasionally gain admission from the Eustachian tube during head-catarrh or on blowing the nose. This should be frequently removed with absorbent cotton, and if necessary the drying application renewed for a time.

Dr. Sexton says he would not hesitate to perform this operation when the incudo-stapedial joint remains intact, unless a very considerable portion of the membrana vibrans is present.

PURULENT OTITIS SUBSEQUENT TO THE PUERPERAL STATE.

Bonnet reports (*Annales des Maladies de l' Oreille*, September, 1886) a case of a young primipara, 24 years old, who was delivered artificially, and with great suffering, of a dead child. Subsequently the patient seems to have been affected by absorption of purulent matter, because the antiseptic measures were not kept up long enough. The germs thus allowed to introduce themselves into the general organism from the affected uterus accomplished their migration in an insidious manner until their presence was suddenly and unexpectedly revealed by an attack of otitis media suppurativa on the left side four weeks after the departure of the patient from the Hôpital Bichât, Paris. From this otitis the vessels of the tympanum and of the neighboring osseous structures, direct or mediate tributaries of the inferior petrous sinuses, and those of the mastoid, to which the inflammation was also propagated, and which flow into the lateral sinus, were attacked first with peri- and then with endo-phlebitis. Propagation to the sinuses and extension to the internal jugular vein were not slow to follow. From this nidus, progressively developed, it is easy to follow the septic emboli, which, becoming detached, were finally arrested in the ramifications of the pulmonary artery, and thence infected the entire circulation.

The clinical observation of the case corresponded exactly with the aforesaid anatomical course of the disease.

The right hemisphere of the brain was congested, the left was pale. The arachnoid liquid was in normal proportions, and its limpidity was preserved. There was neither meningeal nor cortical lesion apparent. The meninges were not adherent. The cerebral hemispheres were normal. That portion of the left cerebellar hemisphere corresponding in position to the lateral sinus on this side showed on its surface a grayish spot about the size of a franc. This lesion was entirely superficial. The central portions were healthy, as were the entire right hemisphere and the isthmus of the brain. The medulla presented no macroscopic changes. On a level with the left lateral sinus, the internal surface of the dura mater presented a greenish-yellow discoloration over a space the size of two francs, and this discoloration extended to the point of the pyramid of the petrous part of the temporal bone. This membrane, which was but slightly adherent to the internal surface of the temporal bone, was easily lifted, and then revealed the fact that the descending portion of the lateral sinus had become transformed into a purulent nidus, extending posteriorly as far as the turn of the sinus, and anteriorly as far as the summit of the petrous pyramid, embracing the inferior petrosal sinus.

The osseous wall forming the external limit of the nidus displayed the slate color of superficial necrosis, and the dura mater forming its internal wall manifested no thinning nor perforation. Pus extended into the internal jugular vein, the walls of which were thickened and its cavity filled with a pyo-sanguinolent mass. The other sinuses contained liquid blood, with here and there non-adherent, non-purulent clots.

A series of sections of the mastoid and petrous portions of the temporal bone showed that the tissue of the mastoid was denser than normal, infiltrated with a slate-colored fluid, but without destruction of its cells, which contained no pus. The middle ear and the auditory canal were filled with pus. The uterus had not undergone complete involution nearly two months after delivery. The ear-disease set in about five weeks after the confinement.

Dr. Bonnet suggests that if the sulphate of quinia had been taken regularly and in larger doses, and had the antiseptic injections been repeated both in the ear and in the vagina, the number and intensity of the disease-germs might have been reduced, and the fatal result warded off, and finally an entire cure might have been effected.

A CASE OF APHASIA, WITH REMARKS.

Read before the New York State Medical Society, Third District Branch, meeting at Binghamton, Sept. 17, 1886,

BY S. M. HAND, M.D.,

Norwich, New York.

I WILL first report a case of aphasia which came under my observation, and then make some comments on its peculiarities which are points of interest in a study of this curious infirmity.

The case was Mrs. C. G., aged 57. On the 2d of May, 1878, she was suddenly seized with a severe pain in her head while sewing, and immediately fell from her chair. She was placed in bed; was drowsy, and for a time could not move her right side. Called to see her immediately, I found her almost insensible, with incomplete right hemiplegia. As she was a plethoric woman and in pretty strong, healthy condition prior to this attack, I bled her from the arm, taking about a quart of blood. After the bleeding she awoke to almost normal consciousness, and the power of motion in the affected side rapidly increased, so that within a few hours she had become able to raise her hand and move her foot, although it was difficult. About the third day she lost her speech, although she had previously been able to answer questions and express her wants. The paralysis then gradually increased until within a few hours she had complete hemiplegia of the right side, with total loss of speech, and could not express a thought by any means but gestures accompanied by utterance of the sound "lockey." She was confined to her bed three or four months, but appeared to have as perfect intelligence as usual, and gave attention to the concerns of the farm and the work about the house. For several months she could not articulate a single word, not even yes or no. On September 1 she had four convulsions within two hours, and the next day had three more; in the intervals she appeared clear in her mind. On the 15th of November she had one convulsion, but has been well since then to the present time.

Six or eight months from the hemiplegic attack she could only speak the word "no;" weeks afterwards she could say "yes," with the usual "lockey-lockey." After about two years had passed of this aphasic condition I asked her to pronounce the word "welcome," and she made the attempt, but only said "lockey-lockey," as usual. Then I asked her to speak it after me as quickly as possible after I spoke it, and as I pronounced the word she said "welcome" as perfectly and plainly as she had ever done; but pausing an instant, she had forgotten, and only could say "lockey-lockey," and shook her head, saying "no, no," and wept on account of her failure; still she could repeat not only it, but also many other words after I spoke them, if she did so quickly after hearing them pronounced. But from the commencement to the present she has not probably articulated more than a dozen different words. She has by accident spoken a word or two, but could not repeat them. The past year or two she has been able to call the name of her daughter Phœbe voluntarily when she desires to; yes and no and Phœbe are the only words that her vocabulary yet includes for her voluntary use, except "lockey," which she can speak very glibly; she can count and express numbers by raising her fingers. She has the same disability for reading and writing that she has for speaking; she cannot point out her own name in a column of women's names; although she can voluntarily speak her daughter's name, Phœbe, she is not able to recognize it when plainly printed; she cannot express a single word in writing, but can copy a letter or a word. Her general health appears to be perfectly good, so that she rides out and visits her friends as she did before the hemiplegic attack, and, save her hemiplegia and aphasia, she is apparently in good physical and intellectual health.

This case is important to us not on account of its treatment, but more particularly because it is one of a kind that illustrates the localization of brain-function, for it is, of course, recognized as a case of amnesic aphasia.

I had worked out the instructions of some of the different authors that treat of this disease, and had designed to use it in connection with the report of this case, but I find it so long that it would not warrant the expectation of your attention and patience.

The principal object of this compilation of sentiment and quotation of the opinions of authors is to call attention to the admitted conclusions of experimenters in regard to the localization of the functions of the brain, in order to reach one particular faculty that has more recently perhaps than many of the others received the attention of investigators,—*i.e.*, that of articulate speech,—and to locate the lesions due to the disease, or accompanying the disease, of the brain called aphasia.

There are various theories relating to the localization of the organ or organs of language. The process of speech is a very complicated action, including an appreciation of the meaning of words, the physiological activity of a speech-centre, and the action of those parts of the brain

which are concerned in the perception of the qualities of the object signified by the word, and an expression of the conception in articulate sounds or speech.

There are many derangements of speech, and each disability of whatever kind may have a specific name and a description.

Speech has been called "the mirror of the human mind" when it is correct and natural, but it is no more a mirror of the natural and healthy condition of the mind than it may be of the morbid disturbances of the same.

Delirium is a reflection of perverted conceptions; mania is a reflection of a wilder whirlwind of thought; while idiocy and dementia and imbecility and melancholia indicate a slow and torpid flow of ideas. In all these conditions speech indicates to us not the thought which the words properly express, but the condition of the organs which were concerned in the processes of the expression; and while the speech itself may be correct as to sound, it becomes a symptom of the disturbed condition of the perceptive and intellectual activities.

Hence Kussmaul divides all derangements of speech as an independent faculty into two kinds: those of articulation and those of diction.

Articulation is only a motor act by the external organs of speech. All lesions of articulation, such for instance as stammering, have been supposed to be what he calls *dysarthric disturbances of speech.* There may be mechanical defects in the speech-producing apparatus, such as hare-lip or fissured palate, or paralyzed vocal cords, or even defect of motor nerves that govern the power of expression. This he calls *dyslalia. Diction* is a compound action of both intellectual and sensory activity. It combines words with perceptions, and at the same time so arranges them in proper order that they give expression to the flow of thoughts. But this power is subject to derangement or disturbances, and either cannot at all or cannot correctly give expression to the thoughts. These conditions of articulation and diction become mixed in many ways. Sometimes disturbances of both articulation and diction exist in the same case. In another individual the thought may be faulty while the expression is correct. In still another the thought may be correct, but have a defective expression.

These disturbances in talking, whether of articulation or of diction, or mixed in the various ways that are possible and occasionally observed, Kussmaul calls by the general name of *dysphrasia.* He describes all the dysphrasic derangements of speech which are usually comprehended under the general name of aphasia as ataxic aphasia, amnesic aphasia, dumbness for words, paraphasia, agrammatism, akataphasia.

1. Ataxic aphasia is an incapacity for the motor co-ordination of words, and appears under his first division of derangement of articulation. In this form of aphasia the patient is unable to articulate words, and yet has the power to read written language or to communicate his ideas by writing.

2. Amnesic aphasia is an incapacity for the recollection of words, and appears under the second division. In this form of aphasia the patient is unable either to speak or to read or write words. The internal word is lacking in amnesic aphasia, while in ataxic aphasia the production of the word is affected. In amnesic aphasia there is an inability to call to mind the words of language, while in ataxic aphasia there is a loss of the motor power of articulation; while all the organs of speech in both kinds are retained, and the understanding and the comprehension of the patient is perfectly good and natural, and he is able to understand words and language when addressed by others.

3. Dumbness for words is an inability, with good hearing and sufficiently preserved intelligence, to understand words. The sound of the word is heard as in health, but the image of the thing which the word signified is not presented to the patient's mind readily, if at all.

4. Paraphasia is an inability to properly connect word-images and the corresponding conceptions; so that, instead of the ones which correspond to the sense, misplaced or entirely incomprehensible word-images present themselves to the patient, and he uses a medley of words without a consciousness of it.

5. Agrammatism is an inability to form words into sentences or arrange them in proper order.

According to this classification, the case reported is one of amnesic aphasia, in which the disturbance was of diction and not of articulation, either in the external organs of speech or in the motor activi-

ties, because my patient can repeat the word plainly when her memory is prompted by having it spoken in her hearing; and also because of the impossibility of speaking the word when seen in written form, or of knowing it when so seen, or of speaking it when suggested by a question or when produced by writing.

An editorial published in the *Medical Record* of September, 1885, contains a description of aphasia in new names and divisions. Instead of the two types of amnesic and ataxic first made out by Bouillaud, Trousseau, and Broca, it is recommended to drop them and use the newer terms of motor and sensory, or aphasia of transmission and aphasia of reception. It describes motor aphasia of two kinds: aphemia, or loss of memory of the co-ordinated movements necessary to speech, and agraphia, or loss of the co-ordinated movements of writing. It locates the lesion of aphemia at the foot of the third left frontal convolution, and the lesion of agraphia at the foot of the second left frontal convolution. The sensory aphasias are divided into two kinds: psychical (or word) blindness, and psychical (or word) deafness. In the first kind the patient talks and understands what is spoken to him, but cannot understand or read written language. Here the lesion is located in the left inferior parietal lobule. In psychical deafness the subject can talk and read, but does not understand spoken language. The lesion here is in the first left temporo-sphenoidal convolution.

These new phases of aphasia were found by Marce, Kussmaul, and Wernicke, and they called them sensory aphasia, and divided them, as above stated, into two forms, psychical deafness and psychical blindness. But the later works of Hammond and Foster and Loomis and Ferrier describe the aphasias under the old divisions. Perhaps the new divisions would more conveniently take in the almost endless variety of the defects of speech, and more definitely admit of classification under one type or the other. But the defects of language are so mixed and complicated that subdivisions would often be needed, or even a resort to the old divisions of Kussmaul for a nomenclature.

There is nearly a uniformity of agreement that there is a speech-centre, or that there is a right and a left speech-centre; but, out of all the teachings and speculations of these able investigators, is it not evident that there are right and left *speech-centres*, so that perception of the qualities of objects or sentiment originates in one area or centre, and that the word-image is originated in its own area or ganglia or centre, and that co-ordination of the speech-muscles as a faculty exists in still another? The medulla oblongata includes a centre for the power of respiration, with its neighboring convulsive centre, the vaso-motor centre, the cardio-inhibitory centre, and several other powers. These various functions, although of themselves simply physical and largely involuntary, may be excited to action by psychical agency in the hemispheres. So the function of speech-making has many united and co-ordinated processes when done in perfection, and many strange manifestations when disease or violence inhibits a part of the process and so interrupts the harmony of the different actions that results in articulate speech.

(To be continued.)

TRANSLATIONS.

Treatment of Iritis.—Trousseau has formulated the following treatment for iritis. In order to prevent synechia, a one-per-cent. solution of neutral sulphate of atropine is prescribed, of which two to three drops are to be instilled every hour into the eye. In case symptoms of toxic action of atropine appear, morphine may be given hypodermically and coffee-infusion used as a throat-wash. Duboisine may be substituted for the atropine, and used in the same manner, without giving rise to unpleasant symptoms. It is a good precaution at the moment of the instillation always to compress the lachrymal sac, so as to prevent the collyrium from entering the nasal fossæ and the throat.

The pain may be relieved by (1) frictions upon the brow of extract of belladonna (one part) to ointment of mercury (three parts). Leeches may be applied to the temples with benefit, especially at the beginning. Warm applications to the eye, of cataplasms or compresses made with an infusion of the leaves of belladonna or hyoscyamus, give great relief. In cases suffering severe pain, hypodermic injec-

tions of morphine and chloral internally may be needed.

When the exudations upon the iris are abundant, even if the patient be not syphilitic, systematic inunctions should be made daily with four grammes of mercurial ointment, and iodide of potassium (from eight to thirty grains daily) given internally. Rest in bed is often of service; purgatives are often useful.

If the iritis be of syphilitic origin, one or two pills of (five centigrammes) protiodide of mercury, or of one or two centigrammes of corrosive sublimate, or the sirop Gibert, according to the period of the syphilis. Salicylate of sodium may be given, three to six grammes daily, in rheumatic cases. If the disease tend to become chronic, the treatment should be insisted upon, and especial reliance given to alterants. In all cases it is necessary to protect the eye from exposure to the light.—*Revue de Thérapeutique*, No. 14.

On the Determination of the Absolute Acidity of the Fluids of the Animal Economy.—At a recent meeting of the Académie des Sciences, M. Berthelot read a note from M. A. Blariez which contained the following conclusions: It is impossible to determine in phosphoric acid the absolute proportion of the base, inasmuch as a molecule of fluid can combine, according to circumstances, with one or two equivalents of the base, or even more. The quantity of the base which combines with the acid is variable, and is influenced by the surrounding conditions. These experiments verify M. Berthelot's statements, made after his calorimetric researches on this substance.

Phosphoric acid and phosphates are contained in the constituent principles of the fluids of the animal organism. It is therefore impossible to determine the absolute acidity of these liquids in presence of bodies which combine with the base in quantities that vary according to the surrounding media to produce theoretical neutralization.

Hydrastis Canadensis in the Treatment of Uterine Congestions, Menorrhagia, and Metrorrhagia.—J. Chéron (*La France Médicale*, No. 91) writes enthusiastically with regard to the use of hydrastis in uterine disorders accompanied by congestions or hemorrhages. The dose is usually from fifteen to twenty drops of the tincture given three or four times a day. A good formula is the following:

℞ Tincturæ hydrastis, 4 gr.;
Elixir., 20 gr.;
Syrup., 30 gr.;
Aquæ destillatæ, 120 gr. M.

To be taken in eight doses in the course of two days. Or berberine phosphate or hydrastin hydrochlorate may be given in doses of two centigrammes; four pills a day, one at each time. Hydrastin may be given in ten-centigramme doses, in pill, several times daily. This medicament, so very useful in the cases just mentioned, is also a remarkable modifier of atonic dyspepsias and catarrh of the stomach, which is not to be despised when we contrast this action with that which is exerted upon the alimentary canal by the ergot of rye.

For Pigmentation of the Skin.—In a communication to the *Journal des Comm. Médicales*, Professor Henry Leloir recommends the following for the removal of melanodermia:

℞ Chloroformis, 100;
Acid. chrysophanic., 15. M.

The part is to be washed with tincture of green soap, or simply with alcohol, and the above solution applied to the surface. When dry, "traumaticine" (guttapercha dissolved in chloroform) is painted over it as a protective, and when this comes off, in a few days, another application is made, and so on. This treatment is applicable only to the epithelial melanodermia. In the so-called dermic melanodermias (when the pigment is deposited in the derma and not the epidermis), its action appears to be null.—*Revue de Thérapeutique*, No. 14.

New Application of the Electro-Magnet.—In a case of a man who claimed to have swallowed an iron fork, M. Trouvé brought his ingenuity to bear upon the diagnosis, at the request of M. Polaillon. An electro-magnetic needle was deflected by the approach of the patient, and a large electro-magnet caused a slight arched projection of the surface of the abdomen, as if something inside were pressing outwards. Gastrotomy was successfully performed, and the stomach was relieved of a fork twenty-one centimetres long. The wound of the stomach was sutured and left free in the abdomen.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, OCTOBER 30, 1886.

EDITORIAL.

BACILLUS TYPHOSUS.

THE bacteriological studies of Eberth, Klebs, Koch, Meyer, Volkman, Gaffky, and others, have established the fact with a reasonable degree of certainty that in enteric fever a bacterium of characteristic morphological and biological traits, the *bacillus typhosus* of Eberth, is almost constantly present. This micro-organism occurs in the form of slender, mobile bacilli, 2.5 μ in length by 0.8 μ in width, which in cultures increase in length and then show worm-like movements (Huber-Becker). Under ordinary circumstances it does not form spores, but when kept for three or four days at the temperature of the body endogenous spores are developed. Unlike other bacteria, its capacity to retain aniline dyes is not increased by warmth. Gaffky states that these bacilli are best stained in an alkaline solution of methyl blue. Carl Seitz concludes an elaborate study of the whole subject of the etiology of enteric fever (Typhus-Aetiologie), from the bacteriological stand-point, with the following statements. In the greater number of the bodies of persons who have died of enteric fever collections of typhus bacilli are found in the different organs, and especially in the spleen. These micro-organisms may be detected in the tissues and isolated in pure cultures without difficulty. They are not found in other infectious diseases nor in other lesions of the intestinal tract. They are characterized by active movement, the peculiarity of their growth upon potato, great power of resistance to desiccation and to cold. To the question, Are these microbes the specific cause of enteric fever? it may be replied that, injected into the veins or given by the mouth, they are capable of causing morbid states in different kinds of animals. By means of infection through the blood-current, lesions presenting the microscopical appearance of enteric fever in the human body were produced. The small intestine, and especially its glandular structures, react to the infection *per os* and by way of the blood with changes resembling those of ileo-typhus. Assuming that the typhus-bacillus is the actual cause of enteric fever, the *abdominal typhus* of the Germans, we may, from experiments upon animals, very positively infer that the intestinal canal is the structure of access, since we here find the most pronounced changes, since the presence of this bacillus has been frequently here established in the living, and, finally, since here the conditions for its development appear to be the most favorable. Against the view that the bacilli find access to the organism by way of the respiratory tract is the fact that there are no marked primary pulmonary lesions.

Seitz concludes from his experimental studies that the typhus-bacillus may exert from the intestine outward, without passing into the blood-current, a deleterious or toxic influence upon the organism at large. This is the more probable since—as Hoffmann and Zenker have shown—the lesions of the various organs, except the spleen, in enteric fever are altogether out of proportion to the limited number of typhus-bacilli which can be discovered in their tissues.

Wolfhügel, Riedel, and Meade-Bolton have experimentally shown, and Michael has positively established in practice, that under favorable circumstances the bacilli multiply in water, and that in a less favorable temperature they preserve a continued existence. The long-recognized danger of infection by means of polluted drinking-water is thus placed

upon a scientific basis. Wolfhügel and Riedel, Auerbach, Green, and Shirley-Murphy have also demonstrated the possibility of the transmission of enteric fever by means of milk, which is a very favorable nidus for the typhus-bacilli. The danger of infection by means of the dejections, soiled linen, vessels, etc., is to be kept constantly in mind, while some clinicians go so far as to assert that the disease may be *directly* communicated from the patient to his attendants,—a view not generally held at present either by American or British physicians. Wagner and Pfeiffer have recently called attention to the important *rôle* which individuality and family predisposition play in the susceptibility to and toleration for enteric fever, a matter long since observed by Levick and others in this country.

The telluric influence—the part played by various soils—in the preservation and spread of the typhus-bacillus is yet to be worked out.

Much is yet to be done before the views of the more advanced bacteriologists can be finally accepted. But the evidence accumulates and light grows clearer. Are we soon to replace our hypothetical "infecting principle," our vague "contagium," by a positive, demonstrable entity in the causation of enteric fever, as has already been done in others of the group of the infectious diseases?

MEETING OF THE EXECUTIVE COMMITTEE OF THE NINTH INTERNATIONAL CONGRESS.

ON the 11th inst. an important meeting of the Executive Committee of the Ninth International Congress was held at Pittsburgh, in this State, at which the different parts of the country were well represented. It was found that affairs are progressing so well that at this date no doubt whatever can be entertained that a successful, creditable, and truly "international" Congress will be held, according to the terms of the invitation originally extended by the American Medical Association on behalf of the profession of these United States.

The Executive Committee had been quietly and earnestly at work, and had succeeded in perfecting the organization to such an extent that further meetings for this year were deemed unnecessary. Some minor details were assigned to various subcommittees, to report to the Committee, at Chicago, on the Monday preceding the next meeting of the American Medical Association. At the Pittsburgh session reports were made by the Presidents of the several Sections, showing a full organization, and a very gratifying array of able papers. The Committee on Arrangements at Washington was also fully organized, and reported much interest in the Congress taken by representative Washington physicians and numerous wealthy and influential citizens. Plans are being formed to secure much diminished rates from steamships and railroads, as well as at hotels. Even at this early date, there can be no doubt whatever of the successful results of the efforts to welcome and entertain our foreign guests in a suitable manner. The representatives of several foreign governments have already shown an active interest in the Congress, and the Belgian government has notified the United States authorities that Dr. L. Servais, of Amsterdam, has been appointed to represent Belgium; so that it is evident international preparations have auspiciously commenced.

From the energy and activity with which the preliminary organization of the Congress is being conducted, there can be no doubt of such an assembly as will be creditable to our country and to the medical profession of the United States. Sir Thomas Longmore, Sir Dyce Duckworth, Sir B. Walter Foster, Mr. Ernest Hart, Mr. John Eric Erichsen, Sir Joseph Fayrer, Morell Mackenzie, and Sir William Stokes are among those accepting from

Great Britain; whilst Charcot, Lieutaud, Dujardin-Beaumetz, Bordia, Bouchut, Cadet de Gassicourt, and Grancher represent France; and Monti, Vogel, Widehofer, Von Hebra, Liebreich, Oscar Lassar, Ottakar Chiari, and Schnitzler will illustrate, with very many others, the profession of Germany. Professor Moncorri at present represents Brazil, but many others are coming, and the promise of a large European representation grows daily.

The marked attention paid to Dr. Davis and other Americans at the meeting of the British Medical Association at Brighton, and the favorable attitude of the *British Medical Journal*, the *Lancet*, and some of the Continental journals, taken in conjunction with the decided change of tone in the comments made by some of the leading opponents of this Congress in this country, are favorable indications which are fully appreciated by its friends, as well as those of the American Medical Association.

LEADING ARTICLES.

HÆMOGLOBINURIA.

THE appearance of blood-coloring matter in the urine is the expression in most emphatic form of a preceding hæmoglobinæmia. In health the blood-plasma of man does not contain hæmoglobin, its yellow color being due to a pigment variously called lutein (Thudichum), hydrobilirubin (Maly), and choletilin (MacMunn). The readiness with which the red corpuscles may be partially dissolved in the plasma varies greatly in different individuals. In some this may be accomplished by ligaturing one of the fingers and immersing it in ice-water; after which, a drop of blood taken from the finger-pulp will show decolorized corpuscles floating in a pink plasma. This experiment was repeatedly performed by Ehrlich upon a patient possessed of this abnormal susceptibility to the action of cold. In such an individual, a prolonged general exposure to cold—no greater than that to which all active persons are liable in the winter season—will cause so great a separation of coloring matter from the corpuscles that it makes its appearance in the urine. Hence the term *winter hæmaturia*, incorrectly applied to these cases. Hæmaturia—the presence of red blood-corpuscles in the urine—cannot occur without inflammation of some portion of the genito-urinary tract, or rupture of some part of its vascular apparatus; and in hæmoglobinuria there is neither. Excessive heat will also produce hæmoglobinuria, which has been often observed to follow extensive burns of the surface. Among the other numerous agents capable of producing this symptom may be mentioned certain edible fungi (morchella and helvella esculenta); potassium chlorate carelessly administered; inhalation of arseniuretted hydrogen; transfusion of alien blood; inunction of pyrogallic acid and naphthol; and the transfusion or hypodermic injection of glycerin, toluylendiamin, anilin, and dimethylanilin. Poisoning by phosphorus will also give rise to it. Among the diseases attended with this symptom are scorbutus, purpura, pyæmia, typhus, and, above all, the malarial fevers. The earliest reported cases of hæmoglobinuria —they were thought to be cases of *hæmaturia*—were due to malarial poisoning. Harley was the first to recognize the true nature of this symptom. In the Medico-Chirurgical Transactions, vol. xlviii. p. 161, he points out that it is the "hæmatoglobulin itself" which is excreted by the kidneys.

At the present time there is still a great deal of confusion and ignorance upon this subject; and it is the knowledge of this —a knowledge forced upon the writer by glaring misstatements in medical journals —that has led to the publication of this article.

It might be supposed that they who have the greatest opportunities for observing a disease would make the most valuable contributions to its pathology; but this is not the case. The reverse seems rather to obtain; for where a disease is rare, it attracts to its study those who are most capable of explaining the relations between its symptoms and lesions,—its pathology in the widest sense. The latter remarks are due to the fact that very little has been done by the physicians of warm latitudes to elucidate the pathology of malarial hæmoglobinuria, which is so common among them. A notable exception is Dr. Carl Heinemann, of Vera Cruz, who made some

valuable observations in the case of a boy æt. 15, which are recorded in *Virchow's Archiv*, Bd. cii. The rule holds good, however, that our principal knowledge of hæmoglobinuria has been contributed by men inhabiting countries in which this affection is rare.

Among the misstatements above referred to are the following. A practitioner, in reporting a well-marked case of malarial hæmoglobinuria, says that he begins to feel hope of a favorable termination as soon as the bowels begin to discharge black bile. The black, tar-like "bile" is undoubtedly altered hæmoglobin, which often appears in this situation, and even in the vagina, as was observed by Dr. Dreschfeld and Mr. Stocks, of Manchester, in a case of poisoning with potassium chlorate.* Another writer states, with reference to malarial hæmoglobinuria, "The urine is not bloody, but contains cholesterine. Dip a white cloth in it, you find the yellow copperas dye." What this means I have not the slightest idea. It sounds like the wanderings of a man who had been dreaming about the subject, or of one who had been made mad by much learning in connection with it. If this explanation is incorrect, it certainly shows how completely the subject is misunderstood by those whose opportunities for studying it are greatest.

In the opening sentence of this article it is stated that hæmoglobinuria is the most emphatic expression of hæmoglobinæmia. The adjective was used advisedly; for just as sugar may be present in the blood in unusual amount without glycosuria necessarily resulting, so hæmoglobinæmia may exist without hæmoglobinuria. It is only when the capacity of the spleen and liver for removing the excess of hæmoglobin is exhausted that this substance appears in the urine. It is probable that improved methods of research will lead to the detection of hæmoglobinæmia in many diseases in which its presence is not even suspected. Litten, in view of the well-known fact that the marrow is changed from yellow to red in certain cases of pernicious anæmia,—a disease in which increased destruction of red corpuscles is generally supposed to exist, although never positively demonstrated,—has suggested a spectroscopic examination of the blood-serum in this disease. The suggestion is a good one, and should be extended to all varieties of anæmia.

The diagnosis of hæmoglobinuria is made with the spectroscope and certain chemical tests,—namely, Heller's and the guaiacum test. The negative evidence furnished by the microscope—absence of red corpuscles—is not sufficient. It has been stated that the albumen of hæmoglobinuria differs from ordinary albumen in that it does not sink to the bottom of the urine, but "floats on the surface of the liquid in a long, ropy strand."

In the number of this journal for April 3, 1886, I endeavored to prove, and I think successfully, that the blood of pernicious anæmia affords an instance of the law of reversion. For the facts upon which this theory was based the inquirer is referred to the source mentioned. I stated that, so far as I knew, there was no other instance of genuine *tissue-reversion*, using the word "reversion" in its strict evolutionary sense, which is that the "adult organism possesses a character which is never assumed by the normal embryo, but which resembles an adult *ancestral* form to a degree which varies with the extent to which development has proceeded along the obsolete track." In diseases attended with hæmoglobinæmia, the blood of man comes to resemble that of the earthworm, showing that, in this affection at least, certain Biblical comparisons rest upon a biological foundation. The earthworm has red blood, but the plasma contains the hæmoglobin, while the corpuscles themselves are colorless.

The disorder produced by "matter out of place" in the inorganic world finds more than one parallel in the organic; but none more striking than that furnished by the affection under consideration. The substance hæmoglobin, which we are accustomed, and justly, to consider the most vital, is no sooner separated from the red corpuscles than it becomes a foreign body, to be got rid of as rapidly as possible. This process of excretion is at times extremely irritating to the organs concerned in it, and in the severest cases the hæmoglobin may block up the uriniferous tubules to such an extent as to cause complete anuria. The true meaning of the term "foreign body" is thus seen to signify not so much a body foreign to the organism as one out of place within it.

* Trans. International Medical Congress, London, 1881.

The jaundice which so frequently occurs in connection with hæmoglobinuria is undoubtedly of the hæmatogenous variety.

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NOTES FROM SPECIAL CORRESPONDENTS.

BOSTON.

THE educational season opened in this city about the 1st of October, both for the student and the practitioner of medicine. The classes at the Harvard Medical School remain in general about as they have averaged heretofore, but the "fourth year" gives evidence of increased popularity, inasmuch as some twenty men have enrolled themselves in it. This additional year of study gives no special advantage in the diploma which it bestows, but it offers clinical facilities in connection with most of the medical and surgical specialties analogous to those given in the ordinary polyclinics and post-graduate schools. Many students make this year cover also in part an externe service in connection with one of the hospitals.

Dr. R. T. Edes, of this city, who has just removed to Washington, resigned the chair of Clinical Medicine in the Harvard School. At his departure he was tendered a banquet by his colleagues of the medical faculty, by the staff of the City Hospital, and by the members of a small local medical club of which he had long been a member. The speaking was very flattering to the professional character of Dr. Edes. The important chair which he vacated in the University has not yet been filled.

The first meeting of the Section of the Suffolk District Medical Society in Clinical Medicine, Pathology, and Hygiene was held October 13, and was devoted to a consideration of the problem of water-filterage. An invitation to any of the general public interested had been given, and the result was an unusually full meeting. The discussion was opened by Professor W. T. Sedgwick, of the Institute of Technology, with an interesting paper. He took the ground that all the filters in use were merely strainers, removing more or less completely suspended matters but not bacteria. The "micro-membrane filter" was especially described, in which the filtering-material is asbestos in a very minute state of subdivision. Experiments showed that it completely decolorized a solution of ultramarine, a severe test for the decolorizing power of any filter, but there was no sufficient evidence that bacteria could be arrested by it; nor, in the opinion of Professor Sedgwick, was it necessary for the public health in the present state of the Boston water-supply that micro-organisms should be removed, even if that were possible. The inventors of various filters were given an opportunity to explain the features of their respective articles. Dr. Ernst, who had made some experiments on the sterilizing power of various filters in Koch's laboratory in Berlin, said that the conclusion there arrived at was that one filter only—viz., that of Chamberlin, of Paris, consisting of unglazed porcelain—possessed the power of arresting the transit of bacteria. After a continuous use of three weeks no micro-organisms were found to pass it. Other devices, such as animal charcoal, would arrest bacteria for a day or two, but after that they grew through the filter, and the total amount of these organisms in the effluent was greater than in water that had not been passed through a filter at all.

Since my last letter Dr. Charles D. Homans, a late president of the Massachusetts Medical Society, and a widely-honored and respected man and physician, has died. As the senior surgeon of the City Hospital, as president of the Humane Society, and in many other relations, he leaves a place difficult to be filled.

The trustees of Perkins Institution for the Blind, one of the most useful of our local charities, held their annual meeting on the 13th instant. There are at present one hundred and forty-six pupils and thirty-four blind teachers and other employés. A kindergarten for the blind has during the past year been the beneficiary by several charitable concerts and other entertainments in this city, at two or more of which the "Autocrat of the Breakfast-Table" read some of his admirable poems. A sufficient sum has been raised to erect a building for the use of the kindergarten, which will be completed in about three months.

At this meeting some very interesting exhibitions of the modes of study were given. Especial interest was shown in the method of teaching geometry and geography. The maps are of course in relief, and the pupils in describing them, and even in making them (in clay), appear to have some advantages in the conception which they gain of some of the physical characters of the countries over children who study geography simply from the ordinary maps.

One case of smallpox, the first in a considerable time, appeared here last week. It was a serious case, but was, as usual, promptly removed to the hospital.

The trustees of the City Hospital voted—October 14—adversely upon a petition for the establishment of homœopathic practice in the hospital, and favorably upon a petition to allow female medical students to be present at certain surgical operations in the amphitheatre, "with the proviso that the attending surgeon or physician may on any occasion reserve such cases as he deems improper for consideration in the presence of students of

both sexes to the end of the lecture, and before proceeding with them require the withdrawal of all male or female students, as the case may be."

As the result of investigations made by the trustees into the usage of other hospitals regarding the admission of women, the following facts are given:

Total number of hospitals which admit students to surgical operations	76
Number of hospitals which admit female students to surgical operations	46
Number of hospitals which do not admit female students to surgical operations	25
Number of hospitals which have no rule upon the subject and to which no female students have applied for admission	5

C. F. W.

October 15, 1886.

PROCEEDINGS OF SOCIETIES.

THE AMERICAN PUBLIC HEALTH ASSOCIATION.

IN 1884, the American Public Health Association, acting upon a suggestion made by the *Sanitary News*, extended an invitation to the sanitarians of the Dominion of Canada to join the Association. The invitation was heartily accepted, and Drs. C. W. Covernton and P. H. Bryce, President and Secretary respectively of the Provincial Board of Health of Ontario, attended the meeting at St. Louis as the representatives of the Dominion and Provincial governments. At the meeting in Washington last year Dr. Covernton was elected first vice-president of the Association, and it was decided to hold the meeting of the current year in the capital of Upper Canada.

The attendance at the meeting was somewhat less than usual, owing probably to the great distance of the meeting-place from the States where most of the active members of the Association live. There were, however, present members from California, Louisiana, Georgia, South Carolina, New Brunswick, Manitoba, Minnesota, and nearly all the intervening States. Dr. Russell, the Health Officer of Glasgow, Scotland, was also present, and was made an honorary member of the Association.

The meeting was called to order at ten o'clock on Tuesday, October 5, and after routine reports a paper by Dr. George Baird, of Wheeling, West Virginia, was read by Dr. James E. Reeves, on the "Destruction of Night-Soil and Garbage by Fire." The paper contained an account of practical experiments made in Wheeling to determine the best method of cremating the refuse of cities. It will be published in full in the *Times*.

The pollution of the water-supply and the sewerage of Toronto were very fully discussed in several papers, in which, however, very little new was developed.

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The annual address of the President, Dr. Henry P. Walcott, of Massachusetts, was an eloquent and scholarly discourse on the present necessities of sanitary science, and how they were to be provided for. There was enough to do, he said, in the directions where both science and experience have arrived at some definite conclusions; but advance in any quarter must necessarily be slow, made under the guidance of systematic experiments and observations controlled by scientific methods, and not in the pursuit of the speculations of theorizers. The principal object of scientific inquiry in preventive medicine during the past year has been, he said, as in the preceding year, the study of the infectious diseases and the micro-organisms associated with them. He went on to review what has been done and what is being done in the study of such diseases as cholera, smallpox, yellow fever, scarlet fever, rabies, and trichinosis. All these were of too much importance to be neglected by the guardians of the public health. To meet the present needs of sanitary science, the President advocated the undertaking by the general government of scientific investigations of diseases which are so general in their distribution that the whole country is affected by them, or of such character that the satisfactory inquiry into them would involve expenditures too great for the meagre appropriations of State and local boards of health. Some of the investigations carried on under the direction of the National Board of Health of the United States were of the highest scientific merit, and had an acknowledged authority everywhere. The public burden from the victims of the misuse of alcohol was becoming each day greater and more intolerable. Public measures of repression had thus far been of so little avail that it seemed to him fitting, on an occasion like that and with such an audience, to invoke for this most important subject the influence and teachings of the profession so largely represented there, and of all those whose business it was to help their fellow-men to healthy minds in healthy bodies. The President enumerated the matters affecting the public health in which a general government can exercise a beneficial control. He noted the advance which has been made in State medicine in Canada since the formation of the Ontario Board of Health in 1882. In regard to quarantine he said, "The recently published quarantine regulations of the Dominion are quite sufficient for your protection and for ours, if they are rigidly enforced. The vast sanitary importance of this highway to the West—the road by which cholera has once at least entered the country—cannot be overstated." He had noticed that there was one thing allowed here in Canada which experience, in his own State at least, had condemned: the presence of municipal councillors on local boards of health. He concluded

by calling attention to the great work which could be done by intelligent and fearless health authorities.

Dr. Salmon, of the Bureau of Animal Industry at Washington, read an interesting paper upon "Recent Investigations upon Hog-Cholera." He said recent discoveries showed that the disease was caused by bacteria. Sterilized culture-liquid used as an inoculant was found to protect pigeons against the living germs. The experiment had not been yet carried out to a conclusion in regard to protecting hogs. The microbes multiplied with extraordinary rapidity in water: about eightfold in twenty-four hours. This experiment showed these germs had power of multiplying in ordinary drinking-water, such as is taken from our rivers and streams. A solution of mercuric iodide—proportion one to two millions—was found to destroy the germs. The question therefore suggested itself whether the fluids and tissues of hogs could not be so impregnated with this disinfectant as to render them absolute proof against the bacteria.

The Committee on Disinfectants reported that they had prepared descriptions, illustrated by diagrams, of all the different forms of apparatus used for disinfection by heat. The conclusions of the committee are as follows:

Apparatus for disinfection by heat may be divided into three classes: 1, those in which dry hot air is employed; 2, those in which moist hot air is used; and, 3, those in which steam is the disinfecting agent.

Dry hot air cannot be relied upon for disinfection when great penetrating power is required, as in disinfecting mattresses, feather-beds, and thick bundles of clothing or of cotton and woollen goods. Besides, dry hot air of a sufficiently high temperature to act as an efficient disinfectant often permanently injures textile fabrics and other objects requiring disinfection. The very recent investigations of Dr. Parsons and of Professor Max Wolff, of Berlin, fully attest the conclusions of the committee upon this point.

Notwithstanding these objections, dry hot air may probably often be used as a disinfectant with good results if the above-mentioned limitations be borne in mind. In no event, however, can dry heat be expected to prove an efficient disinfectant unless a temperature of above 110° C. (230° F.) has been maintained for upward of two hours.

In none of the various apparatuses designed for disinfection with dry hot air has a uniform distribution of heat in the disinfection-chamber been attained. In order to obviate this difficulty, some inventors and experimenters have rendered the hot air humid either by evaporating water in the chamber or by injecting steam into the same. By this means the distribution of heat is rendered more even, and its penetrating power is said to be increased.

In using hot-air apparatus, the fuel employed is of some importance. By the use of gas the heat can be maintained more equably than when coal, coke, or wood is used. The feeding of the furnace, when the latter forms of fuel are employed, allows a certain amount of cooling off, and hence a corresponding loss of heating-time. When the heat is furnished by a current of steam circulating through a steam-pipe properly disposed in the disinfecting-chamber, considerable uniformity in temperature can be maintained.

Apparatuses for disinfection by steam are of two sorts: those in which the steam passes through the disinfecting chamber without compression, and those in which it is confined by pressure. In the former the vapor is sometimes superheated by a secondary heating-apparatus, and this is probably equally efficient as steam under pressure. The experiments of Professor Wolff have shown that, with an apparatus in which the steam is not under pressure, an exposure of at least one hour is requisite for thorough disinfection.

The committee expressed its conviction, based upon the practical experience of some of its members, that the use of steam, especially when superheated or under pressure, is the most efficient agent for the destruction of all sorts of infectious material.

The Conference of State Boards of Health, which met at the same time as the Association, discussed the problem of "Inter-State Notification of Diseases," and adopted the following resolutions:

"1. *Whereas*, It is necessary for the protection and preservation of the public health that prompt information should be given of the existence of cholera, yellow fever, and smallpox, be it resolved that it is the sense of the National Conference of State Boards of Health that it is the duty of each State, provincial, and local Board of Health in any locality in which said diseases may at any time occur, to immediately furnish information of the existence of such diseases to Boards of Health of neighboring and provincial States and to the local board in such States as have no State Boards.

"2. *Resolved*, That upon rumor or report of the existence of pestilential disease, and positive, definite information thereon not being obtainable from the proper health authorities, this Conference recommend that the health officials of one State shall be privileged and justified to go into another State for the purpose of investigating and establishing the truth or falsity of such reports.

"3. *Resolved*, That, whenever practicable, the investigations made under the preceding section shall be done with the co-operation of the State or local health authorities.

"4. Any case which presents symptoms seriously suspicious of one of the aforenamed diseases shall be treated as suspicious and reported as provided for in cases announced as actual.

"5. Any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not pestilential shall be reported as suspicious.

"6. Any case respecting which efforts are made to conceal its existence, full history, and true nature, shall be deemed suspicious and so acted upon.

"7. *Resolved*, That in accordance with the provisions of the foregoing resolutions, the Boards of Health of the United States and Canada represented at this Conference do pledge themselves to an interchange of information as herein provided."

These resolutions were also approved by the Association.

While the scientific work of the Association at the meeting just closed is hardly up to the average of previous meetings, the social entertainments were profuse and of the most enjoyable nature. In fact, the courtesies of the hospitable citizens of Toronto were so generously tendered as to interfere somewhat with the proper work of the Association. A large number of the members brought their wives and other feminine relatives, and the ladies of Toronto successfully vied with each other in making them feel at home. Although the Canadians live in a cold country, we have found that they have warm hearts.

The following officers were elected for the ensuing year: Major George M. Sternberg, Surgeon U.S.A., President; Vice-Presidents, Drs. C. N. Hewitt, of Minnesota, and C. A. Lindsley, of Connecticut; Dr. J. Berrien Lindsley, of Tennessee, and Dr. Irving A. Watson were re-elected as Treasurer and Secretary respectively. The Executive Committee consists of Drs. Henry B. Baker, of Michigan, Joseph Holt, of Louisiana, Hosmer A. Johnson, of Illinois, F. Montizambert, of Canada, George H. Rohé, of Maryland, and Colonel D. P. Hadden, of Tennessee.

The next meeting of the Association will be held in Memphis in November, 1887.

G. H. R.

Toronto, Canada, October 8, 1886.

PHILADELPHIA ACADEMY OF SURGERY.

A MEETING of the Philadelphia Academy of Surgery was held October 4, 1886, Dr. Thomas G. Morton in the chair.

Dr. James Collins exhibited a patient suffering with

AN ENORMOUS TUMOR OF THE RIGHT UPPER JAW,

and said: I wish to call the attention of the Fellows to this case. The patient, a lady 45 years of age, noticed, five years ago, frequent bleeding of the nose. There was also some difficulty in passing the collections of mucus, etc. She was treated in various ways, but soon a swelling made its appearance below the right eye. The tumor gradually increased in size, and two years ago my attention was called to it. There was then a large prominence, suggesting a tumor of the nostril. There is now a large tumor, involving the right side of the face, filling up one side of the nostril, and pressing upward so as to cause protrusion of the eyeball. The sight of the right eye has been lost for the past two years, and she has almost entirely lost hearing on the right side. When pressed upon, the tumor is soft and elastic, feeling like soft bone. Just inside the mouth is an opening which is disposed to bleed readily. There is not much pain connected with the growth, which in the past six months has developed rapidly. When I saw the case two years ago, the question of operation was considered. The friends wished positive assurance that the patient would be benefited; but this we were unable to give, and the operation was deferred. Within the last few months there has been a decided failure of general health and strength. By passing a finger into the antrum through the opening in the mouth, that cavity is found to be free and smooth. The growth seems to be a gradual enlargement of the bone itself rather than the result of pressure from within.

I should like to have an expression of opinion in reference to the correctness of our judgment in deciding not to operate two years ago. I would also request suggestions as to what should be done in the case further.

Dr. J. Ewing Mears: The appearance of this case is almost identical with that of one I had under my care in 1877, and upon which I operated. The history and appearance of this case would indicate that it is one of encephaloid tumor springing from the antrum, and that the pressure has produced absorption of the wall of the antrum. If the tumor were removed, there would be found a large opening, extending perhaps to the base of the cranial cavity. In the case on which I operated the tumor projected into the frontal sinuses, and had destroyed by absorption the anterior and posterior walls of the antrum. It also extended to the base of the cranium, so that, when I finished, I had my finger on the sphenoid bone and even in the sphenoidal cells. The patient lived ten days after the operation. I was called out of the city shortly after the operation, and when I returned I learned that the patient had died, it was said from pneumonia.

Dr. Charles B. Nancrede: I notice that the patient can move the eyeball. The portion of bone to which the muscles are attached must therefore be carried forward. The protrusion seems to be due not so much to bulging of the eyeball as to advancement of the entire cavity.

Dr. Mears: In the case to which I have referred, the eyeball was thrust out of its cavity, but all the motions were preserved. A tumor forcing its way into the orbit causes elonga-

tion of the muscular as well as of other tissues. I do not think it necessary that the point of origin of the muscles should be advanced.

I think that it is the judgment of surgeons who have much to do with jaw-surgery that in carcinoma of the upper jaw, including scirrhus and encephaloid, no operation should be performed; that in sarcoma, especially in children and young persons, an operation is frequently followed by success. In true carcinoma, operation is, as a rule, followed by recurrence. With regard to operation in this case at this time, I think that it could be performed, but the patient would probably not survive the operation long, even if she survived the shock of the operation. The return of the disease would probably be very rapid, as it would be practically impossible to remove all the disease. While the hemorrhage which attends removal of the upper jaw looks very formidable, I have experienced no trouble in controlling it. Pressure is usually sufficient, but in one or two instances ligature was required. I cannot recall a case of fatal hemorrhage following extraction of the upper jaw. Six years ago I removed the upper jaw of a girl eleven years of age. The tumor was examined by Professor S. W. Gross and found to be a spindle-cell sarcoma. There has been no return of the disease.

Dr. J. H. Packard: In 1877 I had a patient with a tumor of the orbit which appeared to originate from a clot of blood effused in a severe labor many years before. I have published a report of this case, with a sketch showing the appearance before and after operation. The eyeball was forced down on the cheek. I removed the tumor without difficulty and replaced the eye. I have seen the patient repeatedly since then, and everything has gone back to the normal condition. It seemed as though the muscles which had been stretched had recovered their tone. The sight had not been impaired by the tumor.

The origin of the deafness in the case presented to-night seems to be obscure, for there are no other symptoms indicating pressure at the base of the brain.

An operation in this case, it seems to me, would be one of great gravity. If the patient were suffering severe pain, an operation would be more positively indicated than it is under existing circumstances. The dangers of the operation would be very great, and it is possible that there would be hemorrhage which could not be controlled except with the cautery, and perhaps it could not be reached with this instrument. If the patient were willing to risk the operation and all its dangers, it might go far towards inducing the surgeon to operate; but an operation should not be urged in such a case. I agree with Dr. Mears as to the possibility of controlling the hemorrhage. I have never seen death result from hemorrhage in the removal of the upper jaw; but I have always been obliged to use the cautery. In this case there has been a change in the vessels. The point of hemorrhage may be removed from the vision, and it may be difficult to reach the vessels to apply the cautery. In the cases which I have seen, the hemorrhage has really been formidable. I have seen greater hemorrhage and more difficulty in arresting it in the removal of tumors of the jaw than in any other form of growth. I should not undertake such an operation without having the cautery at hand.

Dr. W. Joseph Hearn: The question of operation depends much upon the diagnosis. If this is an encephaloid growth, the operation is hardly justifiable; if it is a sarcoma (probably spindle-celled), I think that two years ago an operation would have been justifiable. In my service with Professor Gross I assisted him in several operations on what we then called recurrent fibroid tumors of the jaw. In one of these cases recurrence has not taken place. I think that at this time it would not be proper to perform an operation in this case.

Dr. Charles B. Nancrede: From the cases which I have seen, I would agree with Dr. Packard that the hemorrhage is apt to be severe. In some of the cases nothing but the repeated applications of the actual cautery checked it. In one case which I saw operated on, while the patient did not die on the table, he did practically die of hemorrhage.

Dr. Thomas G. Morton presented a patient who had made rapid and very satisfactory recovery from a

COMPOUND COMMINUTED FRACTURE OF THE CRANIUM.

This man, aged 47 years, was admitted to the Pennsylvania Hospital on September 7, with a compound, comminuted, depressed fracture of the upper portion of the right frontal bone. The injury was produced by a monkey-wrench falling from the fifth story of a building. The patient was admitted about two and one-half hours after the reception of the injury. I bring the case before you as an instance of immediate and primary union, with perfect recovery from the date of the first dressing. The dressing was not removed until the fourteenth day, although the patient was about the ward on the fourth day. The crown of the trephine used was as large as a five-cent piece. About twenty fragments were removed, and a large piece of the internal plate taken away. The opening left was as large as a quarter of a dollar.

The head was carefully shaved, and then washed with the bichloride solution (one to two thousand). The instruments were, as usual, boiled previous to operation and placed in a three-per-cent. solution of carbolic acid. After the operation the wound was thoroughly washed, first with a one-to-one-thousand solution and subsequently with a one-to-five-thou-

sand solution of the bichloride. The edges were carefully approximated, and two fine threads of catgut laid across the wound for drainage. The surface was then dusted with iodoform and covered with gauze soaked in the bichloride solution and dusted with the iodoform. Over this was placed a piece of Lister's gauze wet with a one-to-two-thousand solution, and secured with a bandage treated in the same way. A cotton dressing was then placed over this. The temperature did not go above 99°. When the bandage was removed the strands of catgut had disappeared.

I have brought the patient before you not only to show what I consider to be a remarkable instance of immediate union after such an injury, but also to suggest that if we can obtain through careful antisepsis primary union in compound comminuted fractures of the skull, we shall in large measure avoid the occurrence of fungus cerebri, which in reality is a low grade of inflammatory action.

Dr. Charles B. Nancrede: It is impossible to have fungus cerebri unless there is intracranial suppuration, with an increase of intracranial tension and softening of the brain-substance. If, as sometimes happens, the inflammation extends from without inward as a septic process, primary union of the wound will unquestionably stop it. If the primary injury is sufficient to produce the requisite amount of intracranial inflammation, fungus cerebri will occur in spite of the most careful treatment of the wound. Cases in which the projection is nothing more than a mass of granulations springing from the dura mater differ from true fungus cerebri, which contains brain-tissue. These latter cases are usually due to the original injury, and not to the inflammation from without. The hernia cerebri may even occur after the external wound has closed. Such a case is reported in the International Encyclopædia of Surgery. There are several cases on record where the destruction of bone, produced probably by a gumma, has resulted in hernia cerebri.

Two of my last three cases of hernia cerebri have recovered. I have prepared some statistics as to the mortality of this affection, showing that it is not so great as is generally supposed. Almost all the cases that have recovered have been treated practically on the let-alone plan. That was the method pursued in the cases under my care. I applied gentle pressure, antiseptic dressings, and mild astringents. Both of these patients have since had epilepsy. As far as I have followed out the microscopical pathology of this condition, the only barrier to further protrusion is the presence of the granulations, and every time they are removed you remove the barrier which nature has provided. The less these granulations are meddled with, the greater will be the chance of recovery.

Dr. Thomas G. Morton: I can perceive that there might be cases in which fungus cerebri occurred in the manner described; but I think by closing the wound immediately and removing all sources of irritation, fungus cerebri may be avoided in cases where it would otherwise have occurred. Even if the dura mater were injured, I think that under this method of treatment fungus cerebri would be less likely to develop.

I have seen a number of these cases. One case in a child six years of age, which I treated one year ago with the ligature, recovered. The ligature was applied every other day. In this case the dura mater was injured and considerable brain-substance was lost. The mental power was not impaired by the accident.

Dr. Mears: Since 1876, when I began to use the modified antiseptic dressing in St. Mary's Hospital, I have not seen a case of hernia cerebri, although I have had some eight or ten cases of compound comminuted fracture of the cranial walls, with injury to the dura mater and to the brain-substance. I do not know whether this is to be attributed to the use of antiseptics or whether it is simply a coincidence. In one case where the fracture was produced by the kick of a horse, I removed a piece of the inner table which was larger than a silver dollar. In order to get it through the opening in the external table, I was obliged to cut it with pliers and remove it piecemeal.

Dr. J. H. Brinton: During the past few years I have seen several cases of hernia cerebri. The most marked case was in an officer, in which the parietal bone of the right side was injured by a gunshot. The hernia was marked, and extended one and a half inches in height. Disintegration of the mass took place, and finally extended to the base of the projection, and I shaved it off, and the patient made a good recovery. There was no marked mental disturbance.

Adjourned.

NEW YORK ACADEMY OF MEDICINE.

AT a stated meeting of the Academy, October 7, 1886, the President, A. JACOBI, M.D., in the chair, a paper entitled

SOME PHASES OF CEREBRAL SYPHILIS

was read by JULIUS ALTHAUS, M.D., M.R.C.P., Corresponding Fellow of the Academy.

The author, after some introductory remarks, first spoke of the history of cerebral syphilis, and said that the disease had been only imperfectly recognized until after the middle of the nineteenth century, when a new era in the history of the subject began in the great impetus given the study of its pathological anatomy. It was then demonstrated that syphilis of the brain was not an inflammation, but that it bore throughout the character of a neoplasm. Syphiloma and arterial thrombosis cover, indeed, the immense ma-

jority of cases of cerebral syphilis met with in practice. A disappointing feature of Virchow's work is that he does not point out clearly the connection between the clinical signs and the pathological lesions of cerebral syphilis, and he appears to be only moderately acquainted with the modern doctrines of cerebral localization.

Coming more particularly to the subject of his paper, the author said that time would allow only of his considering syphilitic coma and syphilitic hemiplegia. That coma coming on more or less suddenly in an apparently healthy man, but one who had had unmistakable symptoms of venereal disease, might be a manifestation of the latter was a fact not generally known to the profession. Many causes of coma are mentioned in the text-books, while syphilis is not referred to; Fournier is almost the only author who has alluded to it, and he only briefly. But a knowledge of syphilitic coma is of great practical importance, inasmuch as it requires an entirely different treatment from that of other forms of coma, and an incorrect diagnosis is likely to seal the fate of the patient.

Dr. Althaus had seen, altogether, eight unmistakable cases of syphilitic coma, all in males between twenty-five and forty-two years of age. In every one there was a definite history of primary and secondary syphilis. In two cases no other cerebral symptoms occurred before the coma; the others suffered with giddiness, epileptiform convulsions, and transient loss of power in the limbs. Among the exciting causes of the attack he had noticed overwork, anxiety, trouble, sexual excess, and alcoholic habits. In two cases no exciting cause was ascertained; six were professional men; two were without regular occupation.

The symptoms were classified as: first, premonitory signs; second, symptoms of the initial stage; and, third, the symptoms of the final stage of coma.

He had noticed the following premonitory signs: a feeling of confusion, black specks before the eyes, sudden loss of sight for a short time, numbness in the limbs, some loss of mental power. In six cases there were such symptoms for a few hours or a day or two before the attack. The initial stage of coma set in during sleep; the patient was found in the morning on his back, apparently quite unconscious; he did not moan, nor throw himself back, nor put the hands to the head; his expression was blank, surface generally pale; sometimes he could be roused by shouting to him; he appeared to recognize the face of a friend better than that of a stranger; to loud interrogatories he might answer that he was blind, or only respond with a movement of the lips; the tongue was dry: dorsum covered with fur, except a few red papillæ: protruded slowly, but not deviated to one side; when put into his mouth, he generally succeeded in swallowing a small quantity of fluid; the eyelids were closed; on opening them the eyeballs seemed deeply retracted into the orbit, one more so than the other; their axes appeared to diverge, the greater the coma the greater the divergence; the pupils were small, insensitive to light; ophthalmoscopic examination at first was precluded, but when practised it revealed nothing unusual; the reflex irritability of the conjunctivæ was blunted and gone; the breath was offensive; the muscles were relaxed, and the body and limbs retained any position given them; the arms and legs offered no resistance, and fell heavily when dropped; there was no difference at all between the two sides of the body; there was no appearance of hemiplegia, rigidity, or tremor. In all the cases the sensibility and reflex excitability were greatly diminished or absent; the reflexes were wanting or were elicited with considerable difficulty. There was, either from the first or very soon, incontinence of the bowels and bladder, especially of the latter; occasionally there was constipation. The pulse was habitually slow, beating at the rate of 40, 50, or 60; its quality varied in different cases; it might be hard and wiry, or tolerably full, or small and feeble. Respiration was slow and shallow, the average rate being 8 or 10. The temperature was below the average, from 96° to 97° F. In two cases there was an eruption of herpes on the face; the skin was generally dry.

What, he asked, was the condition of the brain? It was evidently a complex one, for, while we have on the one hand the symptoms of paralysis, there are on the other hand symptoms of irritation of the nervous centres. The loss of consciousness and voluntary motion and sensation showed that the functions of the cineritious substance of the hemispheres, notably of the temporal and frontal lobes and frontal convolutions, were in a state of abeyance, while the state of the pulse, respiration, and temperature showed a condition of irritation in the medulla oblongata and pons Varolii.

The initial stage of syphilitic coma lasted in general from two to five days, and was followed by recovery or merged into the final stage, leading to death. In the former case the patient gradually began to show signs of returning consciousness; in ten days or a fortnight he might apparently be well. In other cases recovery was slower and less perfect; the speech remained indistinct and halting, the memory was weak, the patient did not take much interest in his affairs nor show much affection for his family: at times he appeared to realize his condition acutely, and burst out crying. Eventually, however, even in these least favorable cases the brain-power might be more or less restored, showing but little deterioration as compared with what it was previous to the attack. This is

the bright side of the picture; and as recovery takes place, the result of energetic antisyphilitic treatment, the physician may justly take to himself credit for having benefited the patient.

But there is also a dark side. In the unfavorable cases the patient gradually sinks into the final stage of syphilitic coma in a few days, characterized by intensification of the symptoms of unconsciousness, loss of voluntary power, sensation, and reflex excitability, while the signs of irritation of the pons and bulb change to those of a paralytic state of those organs; the face becomes livid and cyanosed, the conjunctivæ injected, insensitive to touch, the jaws fall apart, the power of swallowing is lost, there is excessive secretion of mucus or dryness of the lips and mouth, the surface of the body is bathed in clammy sweat, the pulse becomes small, feeble, quick, the respiration now becomes accelerated, perhaps stertorous, passing into Cheyne-Stokes type; hypostatic pneumonia may develop; the temperature rises to 104° to 108° F., the pupils become enlarged, and finally death occurs.

Of the eight cases of syphilitic coma which the author had seen, six ended in recovery, two in death in the first attack. In three of those which recovered from the first attack a relapse took place after some time, and one of them eventually died after having survived five such attacks in three years. He could not obtain an autopsy in either of the fatal cases.

Reasoning from analogy, however, it seemed to Dr. Althaus that the clinical history would warrant the inference that in these cases we have to do with an affection of an important cerebral artery which becomes gradually occluded by the syphilitic deposit, and that probably the vessel principally implicated is the basilar artery, which supplies the vitally most important parts of the brain. Sudden occlusion of this artery by inflammation leads rapidly to a fatal result, the principal symptom being profound coma from the beginning of the illness; but when a specific deposit takes place in the basilar artery, it seems that much more time is required to produce occlusion. But while this seemed to him to be the explanation of syphilitic coma, he admitted that the view wanted the proof of ocular inspection.

The author then took up the subject of diagnosis, and said that the cases which are most likely to be confounded with syphilitic coma are those in which hemorrhage takes place into the pons, also some cases of opium-poisoning. Other conditions he mentioned were hystero-epilepsy, alcoholic coma, uræmic coma, and diabetic coma. In opium-coma the pupils are extremely contracted; not so in syphilitic coma. In the former itching of the skin and suppression of urine occur; in alcoholic coma there is the odor of alcohol in the urine, and the pupil is enlarged. The diagnosis is not difficult in uræmic coma if the history is known; there are attacks and remissions, and not the dead-level unconsciousness seen in syphilitic coma. Acetone in the breath and urine accompanies one form of diabetic coma.

The prognosis of syphilitic coma is always grave. The disease shows that the poison of syphilis has insinuated itself into the cerebral arteries, and that eventually there will very likely be a return of the attack. The prognosis of an individual attack is on the whole not very unfavorable, more especially if the patient will accept specific treatment at the outset.

The treatment is partly symptomatic and partly antisyphilitic. The patient should receive at regular intervals easily-digested substances. If he appear to be in imminent danger of death, hypodermic injections of ether may sometimes turn the balance in his favor. Blisters to the back of the neck or on the forehead sometimes appeared to yield beneficial results. The douche appeared to do more harm than good. The principal part of the treatment is the specific, and it consists in the administration of mercury, either by inunction or hypodermic injection. For inunctions the old-fashioned blue ointment is efficient, and he considered a solution of the perchloride the best preparation for hypodermic injection thrown deeply into the substance of the glutei muscles. Other forms of mercury might be employed if preferred.

Some clinical peculiarities of syphilitic hemiplegia as compared with ordinary hemiplegia constituted the subject of the second part of the paper. The immense majority of the patients of this form are males (ninety-five per cent.), while both sexes are about equally represented in ordinary hemiplegia. Most of the patients with syphilitic hemiplegia are young. A peculiar behavior of the deep reflex tendon phenomena has been observed: the occurrence of hemiplegia on one side, with a paralytic affection of the muscles of the eye on the other side, is very significant of syphilis. The author cited cases illustrating different forms of syphilitic hemiplegia, some in which the attack came on suddenly, others in which it came on slowly, etc., and said that while in twenty cases of ordinary hemiplegia taken quite promiscuously all are very much alike, there is hardly a case of syphilitic hemiplegia which exactly resembles another, and it is this extraordinary variety in their clinical aspect which constitutes one of the peculiar features of cases of syphilitic hemiplegia.

Specific treatment failed to cure a very considerable number of cases where there could be no doubt whatever about the specific nature of the complaint. One pathognomonic symptom of syphilitic hemiplegia distinguishing it from ordinary hemiplegia is the presence of excessive exaggeration of the deep-tendon phenomena; the exaggerated response

occurs in the upper as well as the lower extremities.

Regarding treatment, it was a singular fact that while therapeutical results were sometimes very gratifying, they were at other times just the reverse. The cases taught the importance of instituting early specific treatment in all cases of syphilis, in order to avoid secondary lesions, with their attendant symptoms.

Dr. R. W. AMIDON was asked to open the discussion, and said there was one cause of syphilitic coma not mentioned by the author, but which had often forced itself upon his mind,—namely, a weak heart. The occluding disease of the arteries was very well known; but that of itself would hardly account for the very sudden onset of the coma, but when combined with a weak heart the sudden onset of the symptom was well explained.

Dr. A. D. ROCKWELL cited a case of hemiplegia, with facial paralysis and aphasia, which he thought was due to syphilis.

Dr. TAYLOR, speaking of the history of cerebral syphilis, expressed the opinion that the author of the paper had not given sufficient credit to writers previous to the nineteenth century. An admirable digest of the history of syphilitic inflammation of the cerebral arteries would be found in Guy's Hospital Reports for 1879–80. The author's description of syphilitic coma was admirable: he had nothing to add to it. His divisions of hemiplegia were clear and readily understood, but he thought we had the same told us in this country years ago (as early as 1871–72), as the result of the observations of Drs. Van Buren and Keyes, as could be seen in a valuable paper by Dr. Keyes on this subject, in which he spoke of the early age at which syphilitic hemiplegia came on, its gradual development without loss of consciousness, etc.

Dr. Taylor thought there were also other factors in the production of the brain-disease described by the author, the coma, the syphilitic dementia, the general paresis of the insane; such aggravating causes as sexual excess, unnatural sexual habits, and alcoholismus. These three factors go together in the causation of diseases called syphilitic nervous affections.

Dr. L. C. GRAY thought the question as to the exact condition of the brain in syphilitic coma was one on which we yet needed a good deal of light. With regard to the condition of the brain in syphilitic affections, we are generally warranted in attributing them to some precedent arterial trouble; yet in many cases, especially in those in which there is a tendency to coma, the textural changes which take place in the brain are out of all proportion to the changes found in the arteries. He had, last spring, made autopsies upon two cases, neither of which was exactly a typical case of syphilitic coma as described by Dr. Althaus; but in both cases the coma was the main symptom, while the paralytic symptoms appeared later and were entirely secondary. In both he found disease of the cerebral arteries, in one the disease being manifest to the unaided eye as well as under the microscope. But in neither case was the arterial change sufficient to account for the textural disturbance in the brain. In one the textural change was greatly out of proportion to the arterial change; there was very considerable softening, rendering the brain almost pultaceous. In one, besides considerable softening, there were a few patches of meningitis seen in the pia mater; in the other there were not only here and there a few patches of lepto-meningitis, but there were syphilitic gummata forming neoplasms. He therefore thought that the mere theory of some occlusion of the basilar artery was not sufficient to explain the supervention of coma. While a thrombus, an embolus, or gradual proliferation might produce coma, the existence of these conditions in the basilar artery seems unnecessary in order to account for syphilitic coma.

Among the many interesting points in the paper which had attracted his attention was one relating to therapeutics. He had been quite astonished to hear Dr. Althaus speak so favorably of the use of mercury while he had not dwelt to any great extent upon the use of the iodide of potassium, and in this regard he believed the author's views were at variance with those entertained generally by the profession in this country. He had had some experience in the treatment of nervous syphilis, and must say that he had failed to observe any benefit whatever resulting from any mercurial preparation in the treatment of brain-syphilis, whether it came on early or late; but he had found indubitable evidence of the value of the iodide over mercury.

Dr. L. PUTZELL agreed entirely with the reader of the paper regarding therapeutics. He had found that after giving the iodide of potassium, even in large doses, the symptoms did not yield, or yielded very slowly, until mercury was used. Regarding the probable pathology in syphilitic coma, it seemed to him that if the symptoms were purely the result of a thrombus in the basilar artery, there would be more distinct evidence of invasion of the pons and bulbar symptoms. A number of the vessels at the base of the brain being affected, not to the extent of producing occlusion, but causing impaired nutrition, would, he thought, explain the symptoms up to the fatal event, this being probably the direct result of complete occlusion.

AT the Semi-Annual Meeting of the Pathological Society of Philadelphia, held last Wednesday evening, Dr. William Osler read a paper on "Changes in the Blood in Malaria." The meeting was well attended, and a general discussion ensued.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

SPECIAL MEETING, OCTOBER 18, 1886.

The President, DANIEL LEWIS, M.D., in the chair.

JULIUS ALTHAUS, M.D., F.R.C.P., of London, read a paper on

TETANY AND TETANILLA,

in which he said that tetany was only of recent years recognized as a distinct disease, although it probably had existed, as had tetanus, even in ancient times. It was not of frequent occurrence, but owing to its gravity it was important that the physician should be acquainted with its clinical history and treatment. But little was known as yet of its pathology. After a brief review of the history of tetany, in which he gave priority of discovery to Steinheim, Dr. Althaus proceeded to speak of the symptoms, and said that he had seen altogether ten cases of the affection. Four occurred in males, six in females.

Tetany consisted of a succession of attacks of tonic spasm or rigidity of certain groups of muscles, mostly symmetrical, which followed one another at somewhat irregular intervals, there being between the spasms a period of relaxation. There was not loss of consciousness, but there was undue excitability of the motor nerves and muscles.

The chief cause of tetany was certain kinds of irritation coming on in an otherwise enfeebled nervous system. Thus it occurred after diarrhœa, more especially in ill-fed and half-starved children of the poor; also with intestinal worms, or in the nursing woman or at menstruation, after typhoid fever, etc. Another active agent in the production of the complaint was cold; emotional influence was a causative element in two of his cases. Epidemics of tetany had been described, but such cases were probably cases of other diseases, as hysteria or cerebro-spinal meningitis; but several cases of tetany might occur together, due to the exciting factor of cold. Weiss had found four cases of tetany in patients who had had their enlarged thyroid glands extirpated by Billroth, and certain symptoms of tetany had manifested themselves in one patient suffering with myxœdema; it was therefore an interesting question whether there was a more intimate relation between absence or atrophy of the thyroid gland and tetany than had hitherto been assumed.

Tetany had no connection at all with certain occupations, as it occurred in persons following various pursuits. It most frequently occurred between the ages of one and five years, and again between ten and fifteen years; females were more liable to it than males.

A review of the determining causes could not help but lead to the conclusion that a constitutional predisposition must be present in order that cold, diarrhœa, etc., could lead to the outbreak of tetany. In not a single case under his care was there an hereditary history of tetany, but in five out of the ten cases there was such a disease as hysteria, migraine, epilepsy, or chorea in some member of the family. In addition to this, the paternal grandfather of one other patient had died insane, and in another case the parents were first-cousins. It was therefore to be seen that in only three cases out of ten was the family apparently free from a neurotic taint.

The violent symptoms of tetany might develop rapidly or come on gradually, and in those cases in which the cause had acted suddenly the disease was more likely to be at once fully developed, whereas in the cases in which the nervous system became more gradually undermined there was progression of the symptoms to their severer degree of manifestation. Among the premonitory symptoms were found more particularly a feeling of malaise, of some impending illness, headache, drowsiness, perhaps stiffness of some of the muscles, with shooting pains in the limbs. These symptoms gradually became aggravated, and tetany then set in. Both hands assumed a peculiar position, though not always the same; varying according to the several groups of muscles affected. In most cases it was the muscles supplied by the ulnar nerve which suffered, in some those under the control of the median, while only very occasionally those which received their motor impulse through the musculo-spiral were affected: therefore a common position of the hand in tetany was a conical one, the thumb being forcibly adducted, the fingers pressed against the thumb, the wrist bent and turned towards the ulnar side of the arm. The condition might stop there or proceed higher up, the forearm be bent, the arms strongly adducted to the body. While a considerable variety of positions might be produced according to the muscles affected, there was in true cases of tetanus always some degree of rigidity in the muscles supplied by the ulnar nerve, and where this was entirely wanting the case was probably not one of tetany. The muscles of the lower limbs might also be affected, causing flexion of the toes, the heels to be drawn up, or the toes might be widely separated, the knees extended, etc. In some cases only one side of the body was affected, or only the upper limbs, or the lower, or the limbs might be affected alternately, but usually there was symmetrical affection of both sides of the body. In the large majority of cases only the muscles of the extremities were affected, but in some those of the head and body were involved. In extreme instances there was spasm of the glottis and dyspnœa, and the diaphragm and other mus-

cles of respiration appeared to be fixed. If the patient was not speedily relieved, death would take place from apnœa. Even the bladder might be affected. A very severe attack sometimes ended in profuse perspiration. The contraction of the muscles was sometimes very painful, more especially in children; in other cases there was only a stiff and bruised feeling, with tenderness on pressure. The degree of contracture might vary from one minute to another; in some cases the patient lay stiff in bed like a statue; in some the degree of muscular spasm was moderate, allowing of some movement. To overcome the rigidity caused pain. Sudden impressions by cold and heat would arrest the spasm for a moment. The duration of the attack was variable; it might last only five minutes, or as many hours; where it had been said to have lasted days together, there probably had been brief intervals of relaxation unnoticed by the attendant; otherwise he should say the case was not one of tetany.

Regarding Trousseau's symptom, causing the spasm by tightly bandaging the leg, Dr. Althaus thought it might be produced by either pressure on the blood-vessels or nerves, but compression of the femoral artery brought about muscular rigidity much more quickly than did compression of the nerve in the sciatic notch. Trousseau's symptom was one diagnostic mark between tetany and hysterical contracture: in the latter the use of the Esmarch bandage being followed by relief from the contracture. The electrical and mechanical excitability of the nerves and muscles was enhanced. If the electrical currents had become again normal, it might be concluded that the patient had recovered. The mechanical irritability was especially marked along the portio dura, even when it had not been previously affected during the disease; during the free intervals there was decided loss of muscular power, together with a feeling of lassitude.

While tetany showed a great variety of symptoms in the motor sphere, these were much less conspicuous in that of sensibility. Some patients claimed that pain was insignificant, but it was usually to be elicited over the spine, particularly the seventh cervical vertebra. Feelings of cold and heat, etc., were sometimes present, sometimes absent; sometimes there was redness and œdematous swelling, more especially of the joints of the fingers and toes, leading us to suspect rheumatic fever. The temperature might rise as high as 101° F., or higher, in severe cases. Usually the secretions did not manifest any morbid change.

A few cases of tetany had ended fatally, but precise pathological data had not been obtained. The great diversity and variety of changes found was in itself proof that we had not yet discovered the lesion of tetany; while other considerations led him to think that, if there was a particular lesion, it was one causing only a functional disturbance in the giant-cells of the anterior horns of gray matter in the cord. Hughlings-Jackson's theory regarding the cerebellum as being the seat of the trouble he thought was far-fetched.

The diagnosis of tetany was not always easy. We had to rely chiefly on the paroxysmal occurrence of the spasms, the peculiar fact that it spread from the periphery to the centre, on Trousseau's symptom, and on the electrical and mechanical excitability of the nerves and muscles. It was to be distinguished from epilepsy, cerebro-spinal meningitis, rheumatism, tetanus.

Passing to the symptoms of tetanilla, the author said it occurred in neurotic patients, frequently in those addicted to masturbation. In some cases there was no apparent cause for it. Unlike tetany, in it the spasms were clonic; there was absence of prolonged muscular resistance and Trousseau's symptom. The convulsions were symmetrical, and ceased during sleep. There was generally impaired motor power or power of co-ordination. The nutrition of the muscles was normal, but the excitability was increased, and the knee-jerk more especially was exaggerated. The degree of spasm varied. In some cases it was slight, in others of considerable severity; in some temporary, in others almost incessant. The flexors of the hands were frequently involved, sometimes the deltoid; and, indeed, none of the muscles of the body were exempt. Perfect rest gave the greatest ease; while walking, using the hands, etc., were liable to increase the spasms. The patient might be unable to follow his occupation, but it was chiefly the moral influence from which the patient most suffered, fearing a cerebral tumor, progressive muscular atrophy, etc. All of his patients had recovered but one. In this one the disease commenced when he was sixteen, and there were now and then recurrences, although his general health was good, at the age of fifty-four years. He was disposed to think that tetanilla was due to the same condition as tetany, only in a less marked degree: namely, a disturbance of nutrition in the giant-cells of the anterior horns of gray matter.

As to the prognosis in tetany, most persons recovered within two or three months, especially if under favorable circumstances. He recommended, as treatment, healthful surroundings, nourishing food, special treatment for special conditions; chloral hydrate was better than morphine as a direct sedative; iodide and bromide of potassium had been useful in some cases. Electricity had frequently been employed without success when applied to the affected nerves and muscles, while the application of the large anode to the spine, with the cathode at a distance, seemed to have a much better sedative effect. For cutting off an attack of tetany threaten-

ing life, nothing was equal to the subcutaneous injection of pilocarpine. As soon as profuse perspiration was established the spasm ceased. The treatment of tetanilla should be chiefly mental, especially assuring the patient there was nothing wrong with his brain.

Dr. W. A. Hammond said it would be impossible for him to add anything to the very graphic description Dr. Althaus had given of tetany. He thought he had seen a good many cases of tetany; but he had only recognized four, the other cases having come under observation before he knew anything about the disease. It was his opinion that many of the cases recognized as tetanus during the time of the civil war were cases of tetany, for usually they recovered. He had seen probably forty or fifty such cases, and all had recovered. It was well known that the idiopathic variety of tetanus was more likely to be attended by recovery than the traumatic variety.

Dr. Hammond gave some of the differential points between tetany and tetanus: among others, the commencement and principal seat of the affection being in the lower jaw in tetanus; in tetanus there was epigastric distress; the more marked reflex excitability in tetanus; and in tetany he had almost always found some disturbance of sensibility, paræsthesia and anæsthesia.

As to the probable seat of the disease, he could not conceive how it could be due, as supposed by Dr. Althaus, to a change in the giant-cells of the anterior horns. Dr. Hammond was rather disposed to think it existed in the cells of the antero-lateral columns, but not confined there; extending also to some extent to the posterior columns.

Of the cases which he had seen, two recovered probably without benefit from the drugs administered; two recovered promptly within four or five days after the administration of large doses (one-hundred-grain doses) of bromide of potassium.

Dr. E. Darwin Hudson did not think that clinicians generally could accept tetany as a distinct disease. The symptoms which it included, as given by different authors, were too varied.

Remarks were also made by Dr. Heitzmann, Dr. Corning, and Dr. John C. Peters, and the discussion was closed by the author, who said that in England they would not dare administer one-hundred-grain doses of bromide of potassium.

CONTRA-INDICATION TO THE USE OF PARALDEHYDE.—Sommer (*Neur. Centr.*, No. 11) concludes that paraldehyde ought not to be given to patients presenting atheromatous defects, and should not be employed in connection with alcoholic liquids. Eickholdt holds that the presence of vaso-paralytic symptoms precludes the employment of paraldehyde.

REVIEWS AND BOOK NOTICES.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE, DESIGNED FOR THE USE OF PRACTITIONERS AND STUDENTS OF MEDICINE. By AUSTIN FLINT, M.D., LL.D. Sixth Edition, Revised and largely Rewritten by the Author, Assisted by WILLIAM H. WELCH, M.D., etc., and AUSTIN FLINT, M.D., LL.D. Philadelphia, Lea Brothers & Co., 1886. 8vo, pp. 1160.

By careful condensation and rearrangement, and by the omission of obsolete matter, much new and valuable material has been added to the present edition without increasing its bulk. Among the new articles special attention is attracted to the following: Infectious Tumors, Syphilitic Disease of the Lungs, Cerebral Syphilis, General Considerations relating to Inflammatory and Structural Disease of the Spinal Cord, Spastic Cerebral Paralysis of Children, Hereditary Ataxia, Myxœdema, Multiple Neuritis, General Pathology of Pyrexia, and Milk-Sickness. In addition to these, the entire work had been revised by the author previous to his death, and many articles rewritten. As with the preceding edition, the present has had the advantage of revision in conjunction with Dr. Welch, of Johns Hopkins University, who contributes also the first seven chapters and part of the eighth. It was issued under the immediate supervision of Dr. Welch and the author's son, Professor Flint, of Bellevue College, New York. Some diagrams have been introduced to elucidate the subject of the physical diagnosis of cerebral diseases.

By the use of small, though clear, type and the sparing use of illustrations, it has been found possible to present in one volume a work on the practice of medicine which is encyclopædic in its fulness. As a text-book or work of reference upon medical practice, it is the favorite with students and has received abundant evidence of appreciation by the profession.

INSOMNIA, AND OTHER DISORDERS OF SLEEP. By HENRY M. LYMAN, A.M., M.D. Chicago, W. T. Keener, 1885. Small 8vo, pp. 239.

This very interesting essay of seven chapters is more comprehensive than its title would indicate. The physiology of sleep, the ordinary agencies which disturb repose, and the devices for removing or overcoming them by moral and medical means occupy the first three chapters, the remaining four being devoted to the treatment of insomnia in particular diseases, a consideration of dreams, somnambulism, and artificial somnambulism or hypnotism. Recent investigations in telepathy are elucidated by clinical cases, and metaphysical healing is explained by the author upon logical grounds.

MISCELLANY.

PROFESSOR E. WILLIAMS, OF CINCINNATI.—It is announced that, owing to the precarious state of his health, Dr. Williams has been obliged to relinquish professional engagements and to visit California. He has also resigned his presidency of the Section on Ophthalmology in the International Medical Congress, a step that causes universal regret.

DR. D. HAYES AGNEW has purchased the residence of Dr. R. J. Levis, on the northwest corner of Sixteenth and Walnut Streets, Philadelphia, and will shortly remove his office to this place. Dr. Levis has gone to Europe for a prolonged stay.

NOTES AND QUERIES.

IN MEMORY OF DR. F. H. HAMILTON.

The Society of Medical Jurisprudence and State Medicine held a meeting in memory of Dr. Frank H. Hamilton, its late President, at the Hall of the Academy of Medicine, New York, September 30, 1886. The opening address was made by the Hon. Amos G. Hull, Vice-President of the Society; after which Dr. Charles A. Leale, President of the New York County Medical Association, delivered an extended eulogy of Dr. Hamilton, in the course of which he gave an exhaustive review of his career and his eminent services to surgery and to the profession and society at large. The Secretary, Dr. G. W. Wells, then read a tribute to the deceased, prepared by General Calvin E. Pratt, which was followed by brief addresses by Drs. Austin Flint, John Shrady, C. S. Wood, Nathan Bozeman, Messrs. Kitchell and Russell, and by other members of the medical and legal professions.

The following resolutions, offered by Dr. Leale, who was the chairman of the Committee of Arrangements for the memorial meeting, were unanimously adopted:

"*Whereas*, The medical and legal professions have sustained a sad bereavement in the death of Professor Frank Hastings Hamilton, A.M., M.D., LL.D., late President of the Society of Medical Jurisprudence and State Medicine, which occurred at his residence on the eleventh day of August, 1886; and

"*Whereas*, It is eminently proper for us, in our associated as well as private relations, to express our great admiration of the life and character of one who has done so much to elevate Medico-Legal Science; therefore

"*Resolved*, That as a Society composed of members representing two of the learned professions which he labored so hard to advance and harmonize, we add our tribute of loving esteem.

"*Resolved*, That Dr. Hamilton, from his pre-eminent talents and his position as a teacher, writer, and practitioner, covering a period of over half a century, has been the means of deciding many perplexing questions coming properly within the jurisdiction of our Society, and has thereby greatly relieved the professions from the malice of unwarrantable litigations.

"*Resolved*, That the humanity, benevolence, and fixedness of purpose exhibited during many years of constant professional toil under numerous trying circumstances, ever with the sincere desire to promote his art and benefit mankind, have ennobled his character and left to us a name worthy of our highest emulation.

"*Resolved*, That the example of his life, diligent study in early youth, manifest desire to acquire knowledge by carefully searching the museums of America and Europe for anatomical specimens to settle disputes in surgical pathology, his translations of foreign medical works, his careful and accurate teachings united with a stern integrity ever to be truthful, and last, but not least, his monumental volumes on Fractures and Dislocations which have been the standard works recommended by colleges at home and abroad, and remain to-day unequalled in surgical literature, having been translated into many foreign languages, and are the acknowledged authorities wherever surgery or medical jurisprudence are taught,—these with many other honorable characteristics have justly endeared his memory to every true and faithful member of our professions, and placed his name upon the scroll of the illustrious men of the first century of American history."

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 10, 1886, *TO OCTOBER* 23, 1886.

MAJOR WARREN WEBSTER, SURGEON.—Leave of absence on account of sickness further extended one year, on account of sickness. S. O. 244, A. G. O., October 20, 1886.

CAPTAIN DANIEL WEISEL, ASSISTANT-SURGEON.—Relieved from duty at Fort Steele, Wyoming, and ordered to proceed to and take station at Fort McKinney, Wyoming, reporting to the commanding officer of that post for duty. S. O. 135, Department of the Platte, October 15, 1886.

CAPTAIN B. D. TAYLOR, ASSISTANT-SURGEON.—From Department of the East to Columbus Barracks, Ohio.

CAPTAIN L. S. TESSON, ASSISTANT-SURGEON.—From Department of Texas to Department of the East.

FIRST-LIEUTENANT C. C. BARROWS, ASSISTANT-SURGEON.—From Department of Arizona to Department of the East.

FIRST-LIEUTENANT F. R. EGAN, ASSISTANT-SURGEON.—From Department of Arizona to Department of Texas.

FIRST-LIEUTENANT F. V. WALKER, ASSISTANT-SURGEON.—From Department of the East to Department of Texas. S. O. 244, A. G. O., October 20, 1886.

FIRST-LIEUTENANT E. C. CARTER, ASSISTANT-SURGEON.—Granted leave of absence for six months, with permission to apply for an extension and to go beyond sea, to take effect when his services can be spared. S. O. 244, A. G. O., October 20, 1886.

FIRST-LIEUTENANT EDWARD EVARTS, ASSISTANT-SURGEON.—Ordered to proceed to Fort Grant, Arizona Territory, and there take station. S. O. 94, Department of Arizona, October 1, 1886.

FIRST-LIEUTENANT W. W. R. FISHER, ASSISTANT-SURGEON.—Ordered, on expiration of his leave of absence, to report to the commanding officer at Fort Bidwell, California, for duty as post-surgeon. S. O. 93, Department of California, October 4, 1886.

FIRST-LIEUTENANT GUY L. EDIE, ASSISTANT-SURGEON.—Having returned from detached service in the Department of Arizona, will join his station at Fort McIntosh, Texas. S. O. 144, Department of Texas, October 13, 1886.

FIRST-LIEUTENANT CHARLES S. BLACK, ASSISTANT-SURGEON.—Granted leave of absence for two months on surgeon's certificate of disability, to take effect when his services can be spared. S. O. 244, A. G. O., October 20, 1886.

FIRST-LIEUTENANT ALONZO R. CHAPIN, ASSISTANT-SURGEON.—Relieved from duty at Fort Laramie, Wyoming, and ordered to Fort Washakir, Wyoming. S. O. 137, Department of the Platte, October 19, 1886.

FIRST-LIEUTENANT FRANCIS J. IVES, ASSISTANT-SURGEON.—In obedience to instructions received from the Division Commander, ordered to report in person at Headquarters, Department of the Platte, for duty. S. O. 146, Department of Texas, October 16, 1886.

FIRST-LIEUTENANT WILLIAM P. KENDALL, ASSISTANT-SURGEON.—Leave of absence extended fifteen days. S. O. 239, A. G. O., October 14, 1886.

FIRST-LIEUTENANT W. B. BANISTER, ASSISTANT-SURGEON.—Assigned to duty at Fort Wingate, New Mexico. S. O. 97, Department of Arizona, September 29, 1886.

FIRST-LIEUTENANT CHARLES F. MASON, ASSISTANT-SURGEON.—Relieved from temporary duty at Fort Verde, Arizona Territory, and ordered for duty at Fort Huachuca, Arizona Territory. S. O. 99, Department of Arizona, October 12, 1886.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDED OCTOBER 23, 1886.

URQUHART, F. M., PASSED ASSISTANT-SURGEON.—Relieved from duty at Cape Charles Quarantine, to proceed to Washington, D.C., with steamer "Woodworth," October 20, 1886.

WASDIN, EUGENE, PASSED ASSISTANT-SURGEON.—Promoted and appointed Passed Assistant-Surgeon from October 1, 1886, October 20, 1886.

WILLIAMS, L. L., ASSISTANT-SURGEON.—Granted leave of absence for three days, October 16, 1886.

PHILADELPHIA, NOVEMBER 13, 1886.

ORIGINAL LECTURES.

CLINICAL LECTURE ON CEREBRAL SYPHILIS.

Delivered at the Hospital of the University of Pennsylvania

BY WILLIAM PEPPER, M.D., LL.D.,

Provost of, and Professor of the Theory and Practice of Medicine and of Clinical Medicine in, the University of Pennsylvania.

Reported by WILLIAM H. MORRISON, M.D.

GENTLEMEN,—I saw this man for the first time about three weeks ago. While in a neighboring city I was asked to see him in consultation. I examined him with care, and it was decided that he should come here to be treated. I can only give you the history as it was told to me at that time, for the condition of the patient is unfortunately such that he can give us no reliable information. He has been a hard-working man. He contracted syphilis many years ago. He had few secondary symptoms, and was regarded as absolutely well. He then married, and has had three perfectly healthy children. He has been somewhat overworked, but not sufficiently so to justify his present broken-down condition. About two years ago he fell down a hatchway, producing a bad fracture of both bones of the right leg, and striking himself on the back; and he also received injuries about the head. There was no fracture of the skull, nor were there any symptoms of concussion of the brain. I call particular attention to this, because it has an important bearing on the symptoms which he presents. Previous to this accident he had begun to complain of headache of the most persistent character. This became increasingly severe after the fall. It was several months before he was able to be about. It was then noticed that there was some peculiarity in walking; but this may have been due to the fracture of the leg. It was supposed that the symptoms were merely the result of the shock to the system from the violent fall. About last January (eight months ago), he had a severe general convulsion, with entire unconsciousness, and with muscular movements involving both sides of the body. Since then the convulsions have recurred at irregular intervals. With this there has been a progressive failure of the intellectual powers. His mind has been growing dull, and his memory weak and confused. The eyesight has failed somewhat, and his gait has become more unsteady; the headache has continued, but is not so severe as formerly.

Present Condition.—He is without fever, or at the most has had an occasional trifling rise of temperature in the evening to 99.6°, and on rare occasions to 100°. He often passes days without any elevation of temperature. I would note that since his admission, eighteen days ago, there has been on three occasions a temperature of 100°, and several times it has been 99°, showing an irritative condition of the system. He has a rather surprised, bewildered expression on the face. His memory is confused: he was in the hospital several days before he could realize where he was. He was much worried about his children, asking continually how soon he would be able to go back to them. In other respects there seems to be no mental aberration. He can read fairly well. The pupils react both to light and accommodation. There is no paralysis of the facial muscles or of the tongue. Hearing is not affected. The knee-jerks are increased, perhaps on the right a little more than on the left. The other reflexes are not increased. There is some slight enlargement of the glands in both groins. I do not know that this is to be regarded as syphilitic, but I mention it on account of the history which we have obtained. There are sometimes slight twitches in the muscles of the eyes, and occasionally a little approach to nystagmus, but this is not marked. When the hands are stretched out there is marked muscular tremor. There is some slight ataxia in the conjoined movements of the arms and hands. In the legs there is no loss of power, and the affection of the gait does not seem to be greater than might be explained by the rather badly healed fracture of the right leg. There is some tremor in the lower extremities. He stands well with the eyes shut. He complains slightly of pain in the back, and of a feeling of coldness, which he has had since admission.

The eyes were examined by Dr. George E. De Schweinitz, who makes the follow-

ing report. "The action of the pupils is good, the right pupil being slightly larger than the left. The excursion of the eyes is good, except laterally to the right, when the movement is arrested with a jerk. There is no paralysis of any of the muscles, but insufficiency of the internal recti, between six and seven degrees. The eye-ground of the left eye shows the disk oval, the veins normal in calibre. The disk is grayish red in color. The arteries are distinctly small, and in some places quite contracted. The lymph-sheaths along the arteries are full, but not so along the veins. The right eye shows a large, irregular-shaped nerve, with central excavation, and a similar condition of the arteries and veins as noted in the left eye. Central color-perception is good in both eyes. The field of vision is contracted more on the left side than on the right. The diagnosis is gray degeneration of both optic nerves."

The following notes have been made since admission.

September 28, the day following admission. He complains of loss of memory; does not recognize individuals, and recurs to the same subject constantly; but there are no distinct hallucinations.

September 30. Had severe convulsion at 3 P.M. It began with a cry, and was followed by twitching of the left side of the face; then by convulsive movements of the right hand and arm; then of the right side of the face. There was some increased flow of saliva, with frothing. Some loss of power of deglutition and nystagmus accompanied it. The convulsion was diminished by inhalation of nitrite of amyl. The patient was then laid upon the bed. He was then seized with a general convulsion of severe character, lasting ten minutes, accompanied by profound loss of consciousness, by frothing at the mouth, by livid discoloration of the face, and by universal clonic movements. Twenty grains of chloral hydrate were given by the rectum, and half an hour later twenty-five grains of potassium bromide were administered by the mouth.

Here, then, is a case of great gravity, one not unattended with obscurity, where it is exceedingly important that we should arrive at an accurate diagnosis to guide us in its treatment. In the first place, as to the diagnosis of this case. You will observe that we have two distinct morbid influences to study. First, the effect of the injury, the concussion of the spine, with the asserted injury of the head, although there were no evidences of severe injury of the skull or brain; and, secondly, the effects of the old syphilis, with some evidences of constitutional infection, but with a long period of quiescence, during which healthy children have been born to him. It seems impossible to consider that this condition is due to the injury. There is undoubtedly a lesion within the cranium. This probably might be produced by an extensive creeping meningitis which had involved the sheaths of the optic nerves and led to degeneration of the nerve-trunks. This might have been set up by an injury: a fissured fracture or a depressed fracture, with a spicule of bone irritating the surface of the brain, might excite a subacute process extending along the base and giving rise to these symptoms. From the history of the injury which we have been able to obtain, I think that it is not reasonable to believe that the accident really was followed by such serious lesions within the cranium. This condition might be dependent upon an inflammatory lesion arising under the influence of the old syphilis. A syphilitic meningitis or a syphilitic gumma developing in the membranes and involving the surface of the brain might cause the symptoms which this man has presented. From a survey of the whole case, we cannot help feeling that the evidence points strongly to the syphilitic origin of the trouble. The gravity of the nervous symptoms has been no doubt influenced by the severe nervous shock accompanying the injury; but that the whole trouble is traumatic I think cannot be maintained.

Cerebral syphilis is one of the most common expressions of constitutional syphilis. The anatomical lesions are gumma —that is, an isolated tumor growing in the membranes and encroaching upon the surface of the brain by pressure—and meningitis involving the arachnoid or the dura mater or periosteum. Of course, the inflammation of the dura is practically an internal periostitis. These are the common lesions. Among the symptoms which we note in cerebral syphilis, headache is the most constant, often being violent and continuous, lasting for days or weeks. Convulsion is an extremely frequent symptom, the character of the con-

vulsion differing according to the lesion. When the lesion is very circumscribed, for instance, a small gumma involving some cortical centre, we may have distinctly-marked, circumscribed spasm of some part of the body, which may be limited to a single member, as the arm or the muscles of the hand, or those of the face; or the convulsions may be general. Sometimes the spasm can be traced to certain groups of muscles where it will begin, and whence it will spread until the whole area which is to be involved is affected. A careful study of this point is of great importance when we come to consider the possibility of determining the exact location of the lesion in this and similar cases. In those convulsions dependent upon a circumscribed lesion, consciousness may not be entirely lost, or it may not be lost at all. On the other hand, the irritation may be so great that from this centre which starts the convulsion in one group of muscles the irritation will spread to other centres, producing loss of consciousness, and later even general convulsion. Another important symptom is the lesion of the optic nerve: that is, gray degeneration and atrophy. This case illustrates the importance of the ophthalmoscopic examination in all such cases. This man reads fairly well, and he complains of no dimness of vision. There may be advanced lesion of the optic nerve without any appreciable defect of vision as determined by the ordinary standards. Next in importance are lesions of other intracranial nerve-trunks attended with local palsies, as of the face or of the muscles about the eye. The only symptom here is insufficiency of the internal recti; but it is not great enough to be regarded as significant. Then we have failure of memory and of mental power. This is dependent upon prolonged irritation, and sometimes upon actual softening from pressure by exudation, either from a gumma or from meningeal thickening.

The first question, then, of practical importance in the diagnosis of this case, after having determined the presence of cerebral syphilis, is whether the lesion is a diffused or a strictly circumscribed one. Now, this would not have been so important a few years ago as it is to-day. It is a fact that the study of cerebral topography and the localization of lesions connected with certain special symptoms has already advanced so far that we are able to define the precise position of a number of lesions within the cranium where certain specific symptoms are present; so much so that within the past year or two there have been several cases where trephining has been performed, the lesion found, and the growth removed, with recovery of the patient. The gumma, and in some cases the neoplasm of other character, has been as accurately located and removed as though it had been a superficial growth. The importance of determining whether the lesion is diffused or is circumscribed is at once apparent. All the evidence in this case is in favor of a diffused lesion. The double atrophy of the optic nerves, the mental failure, the loss of memory, and the character of the convulsion would indicate extensive lesion. As we have noted, the spasm begins on the left side of the face, then affects the right hand and arm and the right side of the face, and is followed by a general convulsion. This is not an indication that a minute cortical centre is affected, but points to a widespread disturbance of the motor centres. A diffused lesion, either a meningeal exudation or several gummata, would seem to be the diagnosis, and in all probability, from the diffused character of the headache, it is a meningeal lesion.

The treatment may be internal, and must be addressed to the syphilitic element of the case. He has been put on ascending doses of potassium iodide, with ascending doses of mercuric bichloride, so as to reach as rapidly as possible the point of tolerance of the system. The patient has been quieter during the past few days; but whether this is due to the treatment or to the fact that he is becoming more familiar with his surroundings cannot be determined. I shall bring him before you again in a few weeks, when we shall be better able to judge of the effect of treatment.

A New Professorship in the University of Pennsylvania.—We take great pleasure in noting the happy choice of the trustees of the University of Pennsylvania in their selection of Dr. Daniel G. Brinton, of this city, as Professor of American Archæology and Linguistics. Dr. Brinton has already attained distinction by his studies in the early dialects of the American Indians, and is a vigorous writer and lecturer.

ORIGINAL COMMUNICATIONS.

A CASE OF APHASIA, WITH REMARKS.

Read before the New York State Medical Society, Third District Branch, meeting at Binghamton, Sept. 17, 1886,

BY S. M. HAND, M.D.,
Norwich, New York.

(Continued from page 90.)

ALL teachers on the subject describe amnesic aphasia as a forgetfulness of words, and ataxic aphasia as a loss of the power of co-ordinating the movements necessary for the articulation of these words. Technically it is not a forgetfulness of words, but a loss of the faculty of creating internal words or word-images as representatives of ideas, for there is first an internal speech before it can be made external by articulation.

In the case I have related, intelligence is perfectly preserved, and questions and the value of words are as thoroughly comprehended as in her former normal condition, and when the word-image is presented by pronouncing it in her hearing her power of co-ordinating the movements necessary for the articulation of the word is excited to activity and acts as perfectly as it did in her normal condition. There are cases in which the co-ordinating power is lost while the internal word-creating power is normal; and there are cases in which this co-ordinating power is normal while the word-creating faculty is lost.

Vocal language is not altogether voluntary, but partly voluntary and partly automatic, by the same reason that walking and playing a piano are automatic in part, and even much of all we do is automatic, while much less is voluntary. In a case, therefore, of amnesic aphasia the subject may say, "How do you do?" or "I don't know," and not be able to repeat it if requested to do so. The case of the late Dr. Wicks, of Gilbertsville, illustrates an automatic power for speech. He was suddenly arrested, while walking on his lawn one morning, with a partial hemiplegia of the right side, and had lost the ability to speak. He could not say yes or no, or speak any other word except the sound "terita." When I asked him to say "cup," he looked at the cup (which stood on the table near him) and said, "Terita, terita," and repeated it; and then, with an expression of impatience by the gestures of his face, said, "Damn it." Then I asked him to say, "Damn it," and he said, "Terita, terita;" and, with the same expression of impatience, after the second effort he said, "Damn it." He could not speak a syllable voluntarily, but he did speak automatically, and showed that he was not ataxic, but that he was amnesic.

Another case which I recently saw illustrates a condition which is curiously unlike any of the fifteen cases described by Hammond. A man who is now 35 years of age, who had been a locomotive engineer five years ago, suddenly suffered partial hemiplegia of the right side and lost his ability to speak. The hemiplegia is so far recovered that he is now able to walk and to work some in the garden, but he has not been able to speak one word voluntarily since. The only sound he makes is "dĭna dĭna." He cannot write a word or syllable to convey an idea, but he can readily copy a written line. He can read a newspaper or a written sentence, and can count and make the figures to number his brothers and sisters and to express his age. When requested to write the name of his town he could not do it, but could find the name and point it out on the newspaper, or could copy it in printed characters from the newspaper. This is a case of partly amnesic and partly ataxic aphasia, for he can read, but cannot write nor speak, and can count and write the figures that express the numbers. He appeared willing to attempt anything that he was requested, and made an effort to write the name of his town, but could not do so; but he could write his name.

I was called, a few weeks since, in consultation with my neighbor in medicine, to see a colored woman, whom we found with partial hemiplegia of the right side and a much impaired ability to speak. She commenced every attempt to speak with "I want," and some of the time with only this expression; but with some attempts would add a word or two slowly. When she was requested to write her name she did so two or three times, but in all cases with a duplication of one of the letters of her name. Her name was Street, and she duplicated the first "t". When she was requested to write the word "blanket" she made a faithful attempt, but could not succeed with the first letter, nor of any other word she was requested to write. She was ordinarily able to write very well. It would seem as if her suc-

cess in writing her name was partially at least automatic. This could not properly be called a case of ataxic aphasia, but was a case of incomplete amnesic aphasia, for her articulation was perfect for the pronunciation of words, but with very difficult recollection of words, or with much impairment of the internal word-making faculty.

All language of course originates in the gray matter of the cerebral lobes, and it has been claimed by some that we think in a language. This has been questioned by others, and it might indeed be difficult to demonstrate the correctness of either position. But when we hear the word "orange" Ferrier says we think "orange," and the senses of smell and taste and form are concerned in our conception of the orange; and synchronously with this conception of the object the activity of the speech-centre is excited, and an expression by language results.

The portion of brain called hemisphere is not a single organ, as was supposed in former days, but consists of a number of thoroughly differentiated organs, each one of these having special endowments or functions and yet in closest possible connection with all the other portions of the hemispheres and lower brain-centres.

It is comparatively easy to describe the configuration of the various organs of the lower brain-centres and to determine the function of each, but not as easily possible to define the numerous parts and functions of the hemispheres. Indeed, the phrenologist assumes the necessary understanding by an examination of the external surface of the skull. But to define all these various parts of the hemispheres with accuracy, and to determine their intimate structure and their individual energies and offices, and the changes they are liable to undergo during their development and in results of diseases of them, is a work which at the present time is engaging the attention of the profoundest students and the shrewdest detectives of pathological observations.

However, the functions of some of the convolutions are even now pretty well known, and the exact relations of the various portions of the hemispheres anatomically are well known, but to localize the precise seat of power which the intellect uses to administer its government is not yet unquestionably settled. Of late years, Hitzig, Fritsch, and Ferrier have made experiments with the interrupted or faradic currents, and have assumed to be able to map out the convolutions of the front and middle parts of the hemispheres of animals into a number of precisely-limited areas, producing a limited but distinct movement by such stimulation of each; and, while stimulation of a large surface produced general convulsions, the movements were so precise that they answered each to the spot stimulated almost as completely as the note answers to a key struck on a piano. Although this would seem almost a demonstration of the localization of special power in these parts of the convolutions, Foster questions the conclusions, and says that "the exact nature of the connection between galvanic stimulation of the brain-surface and bodily movements is at present very obscure," but that "it is certain that these cerebral spots are not motor centres in a sense that the co-ordination of the movements takes place in them, because the most complete co-ordination obtains in the total absence of the cerebral hemispheres." He credits the probability that "the real connection between the gray matter of the convolutions and these movements with the co-ordinating mechanisms is placed lower down in the brain."

It has been observed when portions of the cerebral hemispheres were gradually removed that no effects were apparent on the intelligence or volition of the animal when the removal commenced, but as it continued greater dulness was manifested, and still greater, until finally intelligence and volition were entirely lost. All surgeons occasionally witness the results of violence when a portion of the brains of a man has been carried away without any marked effect on the physical condition of the patient. The exposed brain seemed not to be at all sensitive, and ordinary stimulants applied to the surface of the convolutions in nearly or quite all experiments have failed to produce any apparent effect. Hence the unbelief in the existence of any localization of functions in the convolutions of the hemispheres, and the belief of some that the brain acts as a whole and not in local parts.

But, we may ask, is the location of the faculty of speech in the human brain a possibility, and are all the lesions which inhibit the power of speech or derange its proper

expressions uniformly found at the same point? It has been so far investigated by experimenters and post-mortem observations of pathological lesions that it is conceded that the faculty of speech begins in the cerebral hemispheres and in the left frontal lobe, and still closer, in its third frontal convolution, and yet closer, in the posterior part of the left third frontal convolution, or—as it is believed by more recent observers from later deductions and comparisons—in the operculum of the island of Reil. Lesions occurring in other regions do not affect the speech unless indirectly through the circulation or continuous sympathy. Aphasias are never called into existence by lesions of the occipital lobes, except possibly in very rare instances by the incidental general disturbance of the hemispheres as a whole, or by a continuous extension that, with the local lesion of the posterior lobes, the convolutions of the anterior lobes, or the island of Reil, is involved with the foreign lesion.

The conclusions of no observer may yet be taken as absolute authority, while they may be entertained as very reasonable, for many are giving attention to the localization of the faculties of the brain, and so far conclude that this faculty of human speech is limited as a power to the region of the posterior part of the left third frontal convolution of the cerebral hemisphere, or in the island of Reil. These parts, it will be remembered, are not in direct continuous relations, but are in immediate contiguous relations. It is understood by all, while these points are themselves in a healthy state and the will orders the pronunciation of a word, that a defect of some subordinate brain-centre may prevent obedience to the order, because then there cannot be the necessary muscular co-ordination to execute the impulse of the will; and yet in such a case as here related, when the entire line of brain-power is surely perfect (as demonstrated by her easy repetition of the sound of the word and the perfect consciousness of her success), it is evident that there is a local lesion; and if in such cases there is uniformly direct or indirect disability of that particular point (as observed in many post-mortem examinations published by Hammond and others), then the conclusion is more than simply reasonable that there is a local centre of power through which the will originates the efferent impulse of speech.

Kussmaul, however, says, "For the purposes of speech there exists an apparatus as vast as it is complicated, consisting of nervous tracts and ganglionic centres, which partly occupy the position of the loftiest workshops of the conscious intelligence and of the will, and are partly reflex agencies, in which simple and ordered sensory stimuli are converted into motion. Such a thing as a simple *centre of language* or *seat of speech* does not exist in the brain any more than a seat of the soul in a simple centre.

"The central organ of speech is, on the contrary, rather composed of a large number of ganglionic apparatuses widely separated from one another, but connected by numerous tracts and fulfilling certain intellectual sensory and motor functions. But it is probable that none of these apparatuses subserve alone the objects of speech. The nervous mechanisms can be made serviceable for different purposes, and it is only practice which brings about those connections between ganglion cell and ganglion cell, between ganglionic centre and ganglionic centre, which render speech in its more restricted sense possible, as well as all the other so very numerous means of expressing our thoughts and feelings. In this sense alone is a central organ of speech gradually cultivated or, as some will say, created in the brain by language itself, and in this sense do there also exist central organs for the plastic art, for dancing, for music, for printing, and for the forms of thought which do not give employment to words, but to numerical signs and other pictorial formula."

But there is evidence which may not be gainsaid that disease of the superficial gray matter of the hemispheres causes delirium (as is so uniformly the case in meningitis), and sometimes convulsions either of an epileptic character or localized in particular groups of muscles; and this local power is also manifested by experiments with the galvanic current, because if the galvanism be applied to particular convolutions and to particular parts of convolutions, definite and uniform co-ordinate movements of various groups of muscles will arise. Thus experiments indicate, if they do not demonstrate, that even the intellectual power is not seated in the gray matter of the hemispheres as a whole, but that a special intellectual power has its residence in a particular portion of one or another of its

convolutions, or lobes, or islands, through which the will sends only the special or particular efferent force with which it is endowed, and receives the returning or afferent impulse to its central home of consciousness. Still, in what particular part or convolution all the various intellectual faculties reside is not yet known, for not all of them have been made the subject of special experiment. But the accidents of violence and disease, interfering with some of the important functions so convenient and necessary to the comforts and uses of men, as hearing and seeing and speaking, have induced an investigation of the condition of the lower and higher brain-centres, so that there is now striking pathological proof accumulated of the connection of certain movements concerned in the production of language with a particular convolution of the brain.

REVIEW OF THE PROGRESS OF MEDICAL AND SURGICAL ELECTRICITY.

BY WILLIAM R. D. BLACKWOOD, M.D.,

Neurologist to the Presbyterian Hospital.

THE TREATMENT OF INFANTILE PALSY BY GALVANISM.

"IN every case of infantile paralysis, so far from doing good, if persisted in, galvanism does infinite harm in the way of increasing the inevitable deformity. This occurs from the difficulty or practical impossibility of localizing the effects of galvanism on the palsied muscles. To be of any use, electricity must produce muscular contraction, effected in the case of galvanism by interruptions of the current. When a strong current is used,—and this is generally necessary,—the current diffuses and excites neighboring muscles. These neighboring muscles are frequently the physiological opponents of the affected ones, and the very ones of all others that it is undesirable to strengthen by unnecessary use or stimulation," etc.—Leslie Phillips, M.D., *British Medical Journal*, July 10, 1886.

It is just because electricity is carelessly used, as above said, that it either fails or does harm. That it can injure in cases instanced as above is preposterous. In the first place, stabile galvanism increases nutrition locally in muscles *without* interruption. Secondly, muscles *can* be isolated far enough to exclude any such calamitous injury as above described, and interrupted currents used to great advantage; and, thirdly, it is not necessary to use *strong* currents at all. Long-continued *mild* applications are preferable: they neither frighten nor fatigue the child, and they accomplish all that is required from electricity, as our hospital cases particularly indicate.

GALVANISM IN PRURITUS.

Breda gives (*Giorn. Ital. delle Mal. Ven. e della Pelle*) additional cases thus treated, in continuation of his former paper on the subject. Universal pruritus yields in four to six weeks' treatment, but how often applied he does not state. We find relief to follow much sooner under daily treatment, the cure being usually arrived at in a fortnight.

GALVANO-CAUTERY IN PROCIDENTIA UTERI.

Dr. John Byrne, of Brooklyn, has been treating procidentia with the cautery, and he finds the method preferable to others in most instances. His operation consists in drawing the uterus down and encircling the cervix with the wire loop just below the reflection of the membrane forming the vaginal vault. A groove about a quarter of an inch deep is then made, and glycerole of tannin tampons applied. In cases reported he claims that in two or three weeks after operating no reasonable force will depress the womb. The health in all instances was perfect thereafter, and menstruation normal and free from pain or inconvenience.

GALVANO-CAUTERY IN MEMBRANOUS DYSMENORRHŒA.

In a Paris letter to the *British Medical Journal* of September 25, a paper by M. Landouski, read at the Medical Congress held at Nancy, stated his experience with the cautery in this affection, which was favorable. The cautery, (after full cervical dilatation) was lightly brushed over the endometrium, and the patient kept in bed a week.

This procedure was brought before the County Medical Society of this city by myself ten years ago, but the operation was deemed unadvisable by those who discussed my paper on dysmenorrhœa. The cases narrated at that time have *remained cured*, but my experience since is limited to two cases only, one much relieved, and

the other partially so. In these instances dilatation alone was unavailing.

HÆMOSTATIC ACTION OF UTERINE FARADIZATION.

Ramas, of Brazil, in the *Bulletin Générale de Thérapeutique*, No. 1, 1886, gives notes of a case of constant hemorrhage following an abortion. No foreign body was detected in the uterus, and ergot, iron, injections, tampons, etc., were useless. Electricity then stopped the flow, one pole to the cervix, the other on the abdomen.

ELECTRICITY IN GYNÆCOLOGY.

At the recent meeting of the American Gynæcological Society, during the second day's session, Dr. Engelmann, of St. Louis, and Dr. W. H. Baker, of Boston, read papers on the general and special uses of electric treatment in this department. A report of the session is given in the *Times* for October 16.

From the discussion there and at other times, it is evident that much of the imperfect or bad results attributed to electrolysis depends upon confounding the value of galvanic with induction currents. The faradic machine cannot give the desired effect when electrolysis is desired, as its power here is almost *nil*. A study of Amory's valuable work, lately published in the current series of "Wood's Standard Library," would repay those who desire to employ electricity intelligently in all departments of practice.

NOVEL METHOD OF ELECTROLYSIS IN THORACIC ANEURISM.

Mr. Richard Barwell reports the details of a case in the *Lancet* of June last. The lesion was at the aortic arch, and failure of other treatment led to the employment of electricity, the case being in a critical state. The idea of diffusing the current widely *within* the sac led Mr. Barwell to introduce a long coil of steel wire. The wire was rolled on a wooden spool, and after introduction of course assumed a coiled shape. When the cavity was well filled, the current from eight elements was used, the positive to the wire, the negative on the dorsal aspect of the thorax. Resistance being too great, twenty additional cells were added, and the strength of current limited to ten milliampères. This was maintained for eighty minutes, causing no inconvenience other than slight redness of the back. For twelve hours consolidation was not apparent, but then it rapidly increased, the tumor becoming quite hard, and pulsation almost ceased. The cough was much relieved, the general health appeared better; but in a few days a new tumor developed to the right of the sternum. The man died exhausted, and at the autopsy the coils were found to be coated by a thick coat of colorless fibrin, which bound the wire at many points firmly to the sac-wall.

Mr. Barwell points out the fact that the operation was undertaken too late, as the auxiliary tumor had shown itself two years before, and it was this one that ruptured. He believes, from the result, that his plan as here tried is greatly superior to the introduction of needles, as the clot is firmer, it is more extensive, and it is retained in place by the coil. The method is certainly worth extended trial; but, after all, the main point is prompt interference, and the time usually occupied in the administration of iodine, etc., is time lost.

MAGNETIC OPERATION ON THE EYE.

Dr. Jany, of Breslau, notes the removal of a steel splinter from the eye of a mason. The lids were intact, and slight ecchymosis on the upper edge of the cornea was present. The foreign body lay on the retina near the equator, a little outward from the vertical meridian, and it was apparently suspended by a fine, veil-like, white membrane. An incision in the conjunctiva under cocaine permitted the entrance of a fine pointed rod attached to a Voltolini electro-magnet, which was held near the chip for a few seconds before removal. The first attempt grasped the object, which was two and a half millimetres by one and a half by one-fourth, and three-edged. In three weeks the man was well, without scar, and his sight as good as ever.

Dr. Jany suggests a powerful magnet as more likely to attract at some distance, to hold the body if firmly embedded, and to save repeated attempts at removal. In this instance eight elements were employed to energize the magnet. The procedure is within the ability of any practitioner, in his opinion,—which opinion, however, we do not share.—*Deutsche Med. Wochensch.*

ELECTRICITY IN NERVOUS CARDIAC PALPITATION.

Meyer, Remak, Huchard, Eulenberg, Ziemssen, and others advocate galvanism

applied in different ways for the relief of nervous palpitation, and Duchenne advocates faradization. The latter, however, has failed in most cases in the hands of others than Duchenne. The experiments of Ziemssen show the effect of the constant current on the heart to be like that on striped muscle, and the poles applied to the thorax are as efficacious as in any other manner.

As stated in our last review, we do not favor direct electrization of the heart as described in that paper: but the anode may be placed on the neck (auriculo-maxillary fossa), the cathode over the præcordia. Skorczewski, in a paper on this subject, noted diminution of the apex-beat of from ten to thirty pulsations in a few minutes under galvanism. — *Zeitschrift für Therapie.*

THE EFFECT OF THE ELECTRIC LIGHT UPON THE EYE.

Dr. J. A. Andrews, of New York, read a paper on this subject before the recent meeting of the American Ophthalmological Society, contrasting the usual agents for producing light,—gas, oil, and electricity. Concerning in-door illumination, he finds that the maximum of light with the minimum of heat is obtained by the incandescent system of electric lighting. All cases of injury to the eye have, he states, been due to incautious exposure at close quarters to the arc-light. Out of eleven hundred workers using incandescent lights, not one case of injured vision was detected. Drs. Agnew and Mittendorf, of New York, corroborated the views of Dr. Andrews.

In one of the mills operated by a member of the writer's family, five hundred incandescent electric lights were, two years ago, introduced in the spinning department, in which very fine work renders the eye-strain great, and the improved work accomplished under the system is highly conclusive of the superiority over gas. The absolute steadiness, the whiteness, and the low heat radiated conduce decidedly to the comfort of the operatives, and finer grades of black are now produced at an increased rate in the same time under electric lighting when compared with gas. There is no doubt whatever in my mind, from close study, that improvement has taken place in the cases of a number of hands suffering from errors of refraction. Headaches, once common from strain and heat, are now rare. The necessity for elevating gaslights above the machinery to avoid fire is done away with, and the loops are brought down below the former line, so as to hide the light from the eye, the porcelain disks throwing the most of the light downward, yet, from their translucent nature, permitting sufficient to pass upward for illuminating the room itself. The sense of security from fire, the knowledge that no injury can come from touching the fixtures, and the absence of heat have changed the hygienic condition so much as to make necessary the extension to five times the amount this winter, leaving the superiority of the light itself out of the question. Physicians in any way connected with extensive factories might improve the comfort and health of the employees radically by a little study of this subject.

Since writing the above, inquiry among compositors in two newspaper-offices here and in others in New York shows similar satisfaction as to the hygienic influence of incandescent electric lighting over gas. Much more work with less fatigue to the eyes is accomplished by printers now than before in the same establishments, and they particularly remark the lessened tendency to headache, which is not uncommon in such operatives.

THE RETARDATION OF RETINITIS PIGMENTOSA.

This, as a rule, incurable affection has, in the hands of Dr. Hasket Derby, of Boston, improved under galvanism, and similar testimony was given by Dr. Standish. Dr. William S. Little had decided improvement in one case under faradism, and Dr. L. Webster Fox found that the negative pole was the more efficacious.

ELECTRICAL DOSAGE.

At the recent meeting of the American Neurological Association much discussion was had, without coming to any conclusion, as to dosage, thickness of rheophore coverings, shape and size of rheophores, etc., all of which is hardly worth discussing. A reliable milliampère-metre, such as Fleming's or Barrett's, should always be included in the circuit when using galvanism, and the matter of thickness of coverings is simply one of resistance to be overcome by potential. A thin cover is just as good for most purposes as a thick one, and entails no waste, and, provided

that the current is not "very strong" (seventy-five to one hundred and fifty milliampères), the lighter the cover the better. Caustic effect being avoided, we need care little for the points discussed, and the ultra refinement of theoretical electricians simply befogs inexpert men, who see in such disquisitions imaginary difficulties in practical work.

ELECTROLYSIS IN NÆVUS.

Dr. John Duncan, surgeon to the Royal Infirmary of Edinburgh, believes that the mixed and subcutaneous varieties of nævus are those specially adapted to this method of treatment. The certainty of cure without scarring on exposed parts is of much importance. Care must be taken to avoid a cutaneous slough: hence not too much should be attempted at each sitting. He prefers steel needles insulated with vulcanite, about a quarter of an inch of the point being exposed. Both poles are introduced, and an anæsthetic is used, the burning being severe.—*Braithwaite*, July, 1886.

Dr. A. Mayor, of Geneva, Switzerland, reports a cutaneo-subcutaneous case of nævus in a girl of 10 months, in which two sittings were successful in destroying the erectile tumor. The mass was the size of a nut, and four years after removal the child remained well and free from scar.—*British Medical Journal.*

IMPROVED AND NEW APPARATUS.

Dr. Rudisch has devised an arrangement by which a mass of asbestos is clamped between the collective and distributing plates, which after immersion for a time holds sufficient moisture to energize the couples for a month. The cells can hence be left at home, at least in zinc-carbon elements (or any single-fluid cell), and portability is thus enhanced. The plan is somewhat similar to that noticed in our review of March 6, 1886, in which agar-agar is employed by M. Guérin. With asbestos-paper internal resistance would not be heightened, however, as it is by the former plan.

IMPROVED GRAVITY CELLS.

Those who employ the ordinary Callaud cells are aware that carelessness in handling them is destructive to the separation of the liquid contents. Any injudicious blow on conjunctive wires is certain to stir up the cupric sulphate, and, as the zinc should never be touched by this solution, the waste thus caused is expensive. The Partz Electric Company has produced a cell (shown in the illustration) which cannot be disturbed thus, and which not only possesses the advantages of the gravity system, but, in addition, is of much higher electro-motive force. The couple may be of zinc and copper, but that shown is preferable, and is of zinc with a large carbon plate. The upper side of the latter is enlarged by numerous studs to give increased surface. In putting up a battery of this kind the glass jars are to be filled, just high enough to cover the zinc plates, with a solution of either an alkaline sulphate, preferably that of magnesia (one part in four parts of water), or an alkaline chloride, preferably that of ammonium (one part in five parts of water), each cell requiring about forty-five fluidounces. To these solutions may be added from five to ten per cent. of hydrochloric acid, which lessens the internal resistance, but causes some local action on the zincs. The depolarization is effected by means of a "sulpho-chromic salt" made and furnished by this company. Of this salt, in which sulphuric acid has been caused to combine with chromic acid in an amorpho-crystalline state, equal portions are dropped into the several glass tubes, whereupon the carbon cathodes soon become covered with a dense stratum of depolarizing liquid, which maintains therewith the energy of the apparatus, and it is only necessary to renew the supply at intervals.

The electro-motive force of a cell is about 1.95 volts. Its strength of current is:

With a solution of	sulphate of magnesia.....	3	ampères.
" "	chloride of sodium.....	5.5	"
" "	ammonium..	6	"

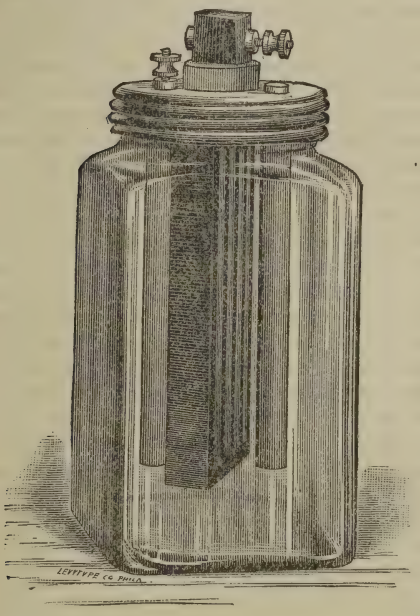
An addition of ten per cent. of hydrochloric acid increases the strength of current of a cell:

With a solution of	sulphate of magnesia to	5.25	ampères.
" "	chloride of sodium.....	6.6	"
" "	ammonium..	7	"

For ordinary use in the office the addition of the acid is not required, and the depolarizing material is added from time to time according to the demand required of the battery, and no interruption is caused by so doing. The zincs may remain in the liquid, unless the battery is unused for long periods, when they should be raised and supported by pins through the rods which are fitted for that purpose.

The Acid Gravity Battery has proved of excellent service in its application to electro-magnetic dental mallets, which are satisfactorily operated by four cells. Its efficiency and great convenience render it equally well suited for surgical and dental glow-lights, for cautery (from four to six cells), and there is no voltaic apparatus better adapted to the wants of a chemical or physical laboratory.

Another modified cell is that suitable for portable batteries and for intermittent work on circuits of high resistance. In the Leclanché, once the electrolite is ex-



hausted, the cell must be replenished at the factory, but this can be renewed by the owner by soaking the cathodes in hot water and adding the depolarizing salt. The initial electro-motive force is 1.6 volts, and a current strength of 2.8 ampères per cell. The carbon cathodes are slotted to increase their surface, and double anodes are employed, connected by the zinc cover, which screws down tightly to prevent evaporation and efflorescence. The element is very constant, and does not run down so rapidly as the ordinary ammonium chloride cells. The finish, as shown by the cut, is excellent. The measurements were made by Professor Dolbear, and his results have been verified by the writer.

STATIC ELECTRIC MACHINES.

The Toepler-Holtz machine, made by Messrs. James W. Queen & Co., of this city, noticed in a recent review,* has been still further improved, and in stability, promptness of working, and ready adaptation to direct and the so-called "secondary induction discharge," it is believed to be unequalled by any other for either medical or experimental work.

In muggy or very hot weather the best static-electric machines are difficult to operate satisfactorily, and to overcome this defect various methods are employed. The better way to insure dry plates is to isolate the machine from the surrounding atmosphere, and Messrs. Queen & Co. have devised an air-tight glass case which serves the purpose admirably. The operation of the revolving plates may be maintained either by the crank with hand-power or by the treadle and spring. Beneath the case compartments are arranged to hold rheophores and chains or other accessories, and, if desired, a vessel of anhydrous sulphuric acid or chloride of calcium may be placed within the case to dry the contained air thoroughly.

The case can be fitted to any Toepler-Holtz machine, and thus arranged static electricity is controlled as readily as is the Ruhmkorff coil.

INTERRUPTER, COMBINER, AND CURRENT-REVERSER.

Dr. De Watteville, of London, has written to say that the switch illustrated in our review of July 10 last was introduced by himself several years ago. We take pleasure in correcting the unavoidable error on our part in reference to its invention, as the English attachment had not been seen at the date of writing, and we had inadvertently overlooked the illustration in the second edition of the distinguished author's classical work on medical and surgical electricity.

246 North Twentieth Street.

For Leucorrhœa.—

℞ Potassii chloratis, ℥iij;
Tinct. opii, f℥iij;
Aq. picis liq., f℥viij. M.

Sig.—One to three teaspoonfuls in a quart of warm water, to be injected morning and evening.

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* Philadelphia Medical Times, March 6, 1886.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CASES FROM DR. MORTON'S CLINIC,

Held October 23, 1886.

RUPTURE OF LONG TENDON OF THE BICEPS MUSCLE, DUE TO MUSCULAR EFFORT—SUTURE, AND SUCCESSFUL RESULT—ANTISEPTIC APPLIANCES.

THE patient is a laboring-man, about 50 years of age, who came here three days ago, with a rupture of the long tendon of the biceps muscle of the right arm. He was at work in a pit ten feet in depth, standing at the bottom and throwing shovelfuls of dirt out of the top, when suddenly he experienced a sharp pain in his shoulder and was unable to continue at his work. I found upon examination of his arm that the long tendon of the biceps had been ruptured. The muscle was firmly contracted and in a state of spasm. I cut down upon the muscle and found its tendon coiled up upon it like a worm. I cut off the frayed end of the tendon, and, replacing it in a deep groove that I had cut in the deltoid (which I had exposed to the acromion), I stitched it deeply into the tissues of this muscle with catgut interrupted sutures. The usual dressings were applied, and the arm kept in a sling. That was sixteen days ago. The dressings have not been disturbed since; they will now be removed. You see the line of the incision, which has perfectly united. Some remnants of catgut sutures are lying upon the dressings, which are perfectly dry. Although the wound has healed, we will not allow the man to use his arm yet; he should not go to work again for another fortnight, but there is no need of keeping him in the hospital. He can report at the Out-Patient Department, and carry his arm in a sling until the newly-united tendon has united firmly in its new location.

Two cases came in on last Thursday afternoon which I regard as crucial tests of aseptic surgery: they will now be brought before you.

GUN-SHOT WOUND OF THE POPLITEAL REGION.

The first man was shot thirty hours before his admission, while in the mining regions, and received a wound in the popliteal space, which at the time was accompanied by excessive hemorrhage: a pistol-bullet had not been removed from the wound. Upon examination I came to the conclusion that the ball must have injured the important deep structures, since the wound was directly in line with the large blood-vessels and nerves, and that it had possibly entered the joint. Sensation in the parts below was preserved, but there was no pulsation in the anterior tibial artery or its branches in the foot.

With antiseptic precautions, I opened the popliteal region, and found the ball lying some distance beyond the artery, it having also injured the knee-joint. The bullet, which was from a Smith & Wesson revolver of .32 calibre, had completely divided the popliteal artery, and had wounded but had not opened the accompanying veins. The divided ends of the torn artery were carefully isolated; the proximal end was filled with clot, the other end was patulous. Both ends were securely tied, in order to prevent secondary hemorrhage. I used catgut ligatures, which were cut short, and the wound was then closed in the usual way and a rubber drainage-tube was inserted. The patient, since the operation, has been perfectly comfortable. An injury of this kind, involving a divided main artery and a joint involved, has always been considered very grave, and one which under other forms of treatment might, and probably would, demand an amputation. I need not now stop to point out the great difference between the results of treatment by former methods in these grave cases and those which we have obtained here by strict antisepsis.

DISLOCATION OF THE KNEE, WITH LACERATION.

The second case is one in which the knee-joint was entirely exposed by a fall, which ruptured the old inflammatory adhesions that had been thrown out in nature's attempt to unite by new tissue a ruptured quadriceps more than a year ago. The skin and deep tissues were so torn as to expose the condyles of the femur and the articular surface of the tibia, the lateral and crucial ligaments were torn, and the wound of the soft parts around the joint was so extensive that the leg was held only by a posterior flap, in which, however, the vessels and nerves were preserved intact. I made lateral vertical incisions upward four inches in length on either side, just as if I were going to perform an amputation, and so

was enabled to lift up the tissues and to clean out the knee-joint and adjacent wound with a douche of one to one thousand solution of corrosive sublimate: all clots were carefully removed, and the wound-surfaces thoroughly curetted. I then brought the parts together with about twenty interrupted catgut stitches, and dressed the wound antiseptically as already described. His temperature this morning, forty hours after the operation, is only $100\frac{1}{5}°$, and his general condition is good. When you consider the character of the case,—that he was in a bad condition, that he has been a drinking man, and that he was under the influence of liquor when he received the injury,—I think you will agree with me that the result thus far has been remarkable. The object of the treatment was to seal up the joint and to prevent the occurrence of irritation and suppuration by the exclusion of all micro-organisms.

The next case is one of contusion of the upper part of the thigh, with a very large hæmatocele, just above the knee, of one week's duration. I shave the part thoroughly, wash it clean with bichloride solution, and cut open this sac from one end to the other, and my incision is five inches in length. I turn out the clot and wash the wound with a one to one thousand solution of corrosive sublimate: with a sharp spoon I am now scraping the walls of the cavity, so as to remove all disorganized shreds of tissue and blood-clots. This having been done, I unite the edges of my incision with interrupted catgut sutures, and apply a compress of gauze wet with the same solution. Iodoform is thickly dusted over the wound, and absorbent cotton, previously washed with the mercuric-chloride solution, is next applied, and retained in place with a bandage wet in the chloride solution. A few strands of catgut ligature are placed in one angle of the wound so as to admit of drainage, and a straight splint is placed on the back of the limb to insure rest.

TEALE AMPUTATION OF THE LEG FOR DEFORMITY.

The next case is a man from the mining regions upon whom I will perform a Teale amputation. About a year ago he was injured by a falling mass of coal, which crushed his right heel. This accident was followed by prolonged suppuration and ulceration. As a result there is contraction of the plantar fascia and of the gastrocnemius muscle to such an extent that he has an acquired talipes equinus; the foot is permanently extended, so that he walks upon the base of the big toe; anchylosis of the tarsus and ankle-joint has taken place; the sole of the foot is covered only by a thin skin or scar-tissue, which is adherent to the bone beneath.

The only remedy for this state of affairs is amputation and an artificial limb.

It is always best before making a Teale operation to measure carefully the size of the flaps and mark their outlines with iodine or the point of the knife. You should never trust simply to your eye.

Proceeding now to the operation, the limb is first washed with soap and water and carefully shaved. It is next bathed with the one to one thousand solution, and towels wet with the same are placed around the limb above and below the line of operation. The hands of the surgeon and assistants are also disinfected, likewise the Esmarch bandage. The knives and other instruments for the operation have been boiled in water, and are kept in a tray under a weak solution of carbolic acid, because the corrosive chloride would act upon the steel and dull them.

The limb at the point of amputation measures ten inches exactly. The long flap then will be five inches in length and breadth. I will take it from the outside external aspect of the limb, because there is more healthy tissue here. The short flap I will now mark one and one-fourth inches long and five in breadth. All the soft parts help to make up the flaps, which are now separated from the bones and the tibia and fibula divided; the wound is washed with the same solution of bichloride, and the vessels are secured with catgut ligatures, which are cut short. Some strands of catgut, instead of rubber tubes, are placed in the lower angle of the wound, and the flaps are brought together with catgut sutures.

The same dressing, of bichloride gauze thickly dusted with iodoform, is applied as in our other cases,—first having placed a strip of silk protective over the sutures, then a layer of absorbent cotton, which has also been treated with the one to one thousand corrosive-sublimate solution; the dressings are kept in place with a wet bichloride bandage. Unless something unusual occurs, indicated by a rise in temper-

ature (which shall be carefully recorded morning and evening each day), this dressing shall not be disturbed for three weeks. I will then bring him before you again and show you the result.

In case a rise of temperature occurs, first find out if this is due to some intercurrent malady. In September last, forty-eight hours after a serious operation, the temperature of one of my patients rose to 103°. An examination showed a sharp attack of diphtheritic tonsillitis, from which the patient soon recovered, but which in no wise affected the wound, which was not opened for several weeks, when it was found quite united, as in those you have seen.

ANTISEPTIC APPLIANCES.

My son, Dr. Thomas S. K. Morton, Senior Resident Surgeon at the Pennsylvania Hospital, has presented me with the following details, which I regard as so important that I have concluded to add them to the report of my lecture.

The antiseptic *dressing* is only the ending of a series of manipulations upon, and applications to, a part before, during, and after an operation. *Per se*, it is almost valueless unless all the necessary details leading up to its application are thoroughly carried out.

Entirely disregarding theory, what is aimed at is to have the field of an operation, upon its completion, free from any substance which can become an irritant or develop fermentation; then to apply some form of dressing which will entirely prevent access of such material to the wound.

Since its first introduction by Lister, the term antiseptic has been made to embrace every procedure likely to prevent such wound-complication, and its range of applicability is rapidly on the increase.

No one dressing or system of antisepsis can yet be spoken of as best: their name is almost legion. The object which it is essential that we shall keep in view is the antiseptic principle: its details of application may be varied.

Hospitals are the only places where comparative tests of such details can be made, and I present below a list of those in present use in the Pennsylvania Hospital. These are the result of much comparative work, experimentation, and investigation, and it is hard to conceive how our wounds could do better than they do.

Cleansing of Parts. — Carefully shave the field of operation and its surroundings; hair grows everywhere except on the palms and soles,—an exception to the above rule,—and is very tenacious of dirt. Then rub well with turpentine or ether, then soap, and a final wash with the one to one thousand bichloride solution. Special pains should be taken to cleanse such parts as the ear, umbilicus, toes, axilla, and groin. If the operation be in the auricular region, wash the pinna of the ear as thoroughly as possible, sprinkle the canal full of iodoform, and put in a small wad of bichloride cotton on top; the cotton, if it become soiled, can be removed before the dressing is applied.

For special occasions, the operative field and its surroundings can be thus treated beforehand and then wrapped in either an antiseptic dressing or in towels wrung out of one to one thousand sublimate solution. A simple irrigation of one to one thousand solution will only be required at the time of operation after this preliminary cleansing. An oil-cloth should be placed under the part to be operated upon and wet with the one to one thousand douche. So also towels wrung out of the same solution should surround the field and cover any part which the operator is liable to touch or lay instruments upon.

Arrest of Hemorrhage. — Great care must be exercised in the ligation of bleeding points. Invariably the catgut ligature should be used for this purpose, unless the vessels are very near the surface and can be stopped by running a stitch through or under them. The catgut which we use is procured either from wholesale dealers in musical supplies, or from importers. Five sizes, running from the finest made to the largest cello string, are all that can be needed for any surgical purpose. To prepare this material properly, the commercial gut should be soaked in oil of juniper for forty-eight hours, washed in alcohol, and stored in the same. The oil of juniper removes the animal oil, so that it becomes quickly pliable in aqueous solution, antiseptic, and will be absorbed in from seven to ten days, according to size.

Stronger and more durable catgut can be made, if desired, by means of chromic acid. The formula is as follows: Take twenty parts of water, one part of carbolic acid, $\frac{1}{200}$ part of chromic acid, and to this mixture add one part of catgut as prepared above. Let it stand for forty-eight

hours, wash in alcohol, and preserve in the same. This gut, according to size, will resist absorption from ten to thirty days. In tying catgut, all difficulty will be overcome if the first knot be made a surgeon's knot.

Drainage.—If care has been taken to arrest bleeding properly, there should be very little material poured into even the largest wounds after their closure, for bichloride, unlike carbolic acid, produces very little tendency in a wound to ooze.

In a properly-managed wound, all possible discharge should be over by, at most, the third day. Various means are employed to accomplish the drainage of this actual, or possible, discharge of bloody serum into wounds. Principal among these are bunches of fine catgut and perforated tubes of rubber, decalcified bone, or parchment. I cannot yet speak with positiveness of more than the first two mentioned. The latter and others are still under trial. Catgut in hanks of from three to twelve strands can be depended upon to drain most wounds which are expected to heal by primary union, even the largest. But if the surgeon has not sufficient confidence in it, the rubber drains may be used, but should be early withdrawn. This is their worst objection, as to accomplish it the whole dressing has to be removed at the most critical time in a wound's healing. Catgut will not, as a rule, drain pus, as it operates by capillarity: hence tubes must be used for the drainage of antiseptically-treated ineradicable abscesses, etc.

The catgut drains, which are made up of fine threads, are absorbed in from seven to ten days.

The rubber tubes are kept in three-per-cent. carbolic acid solution.

Irrigation.—This is kept up from time to time during an operation where antisepsis is possible; it will do no harm in any operation, and probably some good where cleanliness is impossible. It is accomplished by a small stream of the one to two thousand solution directed from a vaginal, Thudichum, or other douche apparatus.

One to two thousand is our standard solution for this purpose, and multiplications or divisions of that strength are made up for special occasion. For example: one to two thousand for wounds filled with dirt; one to twenty-five hundred for poison-wounds, such as dog-bites; one to five thousand or ten thousand for abdominal work. Of course, the latter two are to be washed out by much weaker solutions or by distilled water *ad libitum*.

Sponges are used but once, and then destroyed. We buy them in twenty-five-pound bales, and bleach and purify them by the following process.

Soak in ten-per-cent. hydrochloric acid solution for twenty-four hours, wash thoroughly, and place for an hour in a solution of permanganate of potash, one hundred and eighty grains to five pints of water. Take out, squeeze, and drop into this mixture: dissolve ten ounces hyposulphite of sodium in sixty-eight ounces of water, and filter. To this add five ounces hydrochloric acid. Put in sponges, and leave until thoroughly bleached; then wash them *most thoroughly*, and store in one to one thousand of corrosive sublimate. When ready for use, they cost about three-fourths of a cent each.

Instruments and Apparatus.—Our instruments are invariably boiled after an operation, and, if possible, before. When the latter is done, they can safely be used directly from the water as it cools. Usually they are kept immersed in a three-per-cent. solution of carbolic acid.

Needles, also pins liable to penetrate deeply into the dressings, should be kept in three-per-cent. solution of carbolic acid in glycerin. Instruments can be permanently kept in this solution without damage. Nail-brush and soap should be used on all instruments both before and after operation. All apparatus, such as tourniquets, etc., which may come in contact with the wound or its unprotected vicinity must be previously soaked in either corrosive sublimate or carbolic solution.

Closure of Wound.—The details of this usually neglected proceeding are of great importance. Wash thoroughly with the mercury solution. Remove the larger clots; the smaller will organize or be absorbed. Adjust an appropriate drain, and suture with catgut of the proper absorbability. If the wound be deep, it should be sewn structure to structure from the bottom upward. The skin and immediately subcutaneous tissues sew with very closely placed interrupted or continuous sutures of the same material, taking care to leave sufficient room at the drain-exit for its proper working.

Protective is a substance employed to

keep the irritating dressing from direct contact with the newly-formed repair-cells. It is simply fine oiled silk, coated with a preparation of copal varnish, dextrine, and carbolic acid. This is merely to prevent its shedding water, etc., as ordinary oiled silk does. It is laid in a narrow strip along the suture-line, overlapping it about one-half inch on either side. It is of much more importance where the edges of the wound do not approximate. In that case, if the area to be covered is large, a series of narrow strips is better than one large piece, as it allows of immediate drainage into the antiseptic materials of the dressing. The protective should cover in the ends of the catgut drains, so as to keep them moist and in working order. In removal of the dressing it prevents drawing upon the stitches, etc. It is kept in air-tight glass jars and dry. When wanted, cut off a sufficient amount and place in corrosive or carbolic solution.*

Dressings.—Our principal dressing consists of the gauze of Lister (cheese-cloth impregnated with this mixture while hot: carbolic acid, one part; resin and paraffine, each four parts) wrung out of one to one thousand bichloride solution, in which it is kept. It is cut so as to overlap the wound considerably, and its skin-surface thickly covered with iodoform sprinkled on with a salt- or sugar-duster. Bandages which are to be put on wet with this solution are made from the same gauze. In a small wound eight layers of the moist gauze bound on with a gauze or ordinary roller is all that will be required. If the wound be large or liable to ooze, a considerable pad of bichloride (one to one thousand) dry absorbent cotton is superimposed, and the gauze-bandage placed over all.

TRANSLATIONS.

COTO BARK AND COTOINE IN DIARRHŒA.—In a note read before the Société de Thérapeutique, Paris, Dr. H. Huchard reported his experience in the use of cotoine in diarrhœa. Coto bark was introduced into Europe in 1873 from Bolivia, where it had been employed in gout and rheumatism, but especially in the treatment of diarrhœa. Jobst, of Stuttgart, in 1875 succeeded in isolating the active principle *cotoine*, and from an allied species he obtained a similar one, to which he applied the name of *paracotoine*. Cotoine crystallizes in yellow four-sided needles, resembling commercial gallic acid. It melts at 130°, is soluble in warm water, chloroform, ether, alcohol, and sulphide of carbon, and slightly soluble in cold water, petroleum, and benzine. It is likewise dissolved by alkalies, yielding a yellow color; with sulphuric acid it is yellowish brown, and with concentrated nitric acid strikes a blood-red color. This reaction enables it to be recognized in the urine in from seven to ten hours after its administration. Paracotoine is less active than cotoine, is scarcely soluble in water, and does not give the color-reaction with nitric acid. Coto bark also contains, according to Jobst and Hesse, other principles,—*oxyleucotoine*, *leucotoine*, and *hydrocotoine*, the therapeutic effects of which are less marked than those of cotoine.

The physiological action of cotoine has been studied by Pibram, Benkart, and Albertoni. It has antiseptic and antiputrefactive properties; it stimulates appetite and gastric digestion, and does not cause constipation. It was given in relatively large (1.50 G.) doses to rabbits and guinea-pigs without producing marked toxic effects. The most decided property of cotoine is the dilatation of the vessels of the intestinal walls (Albertoni) following its administration, and the consequent improvement in nutrition of the mucous membrane.

Therapeutically, cotoine has been found valuable in diarrhœas of all kinds. Even in typhoid fever and in cholera it has been employed with some success. Huchard has administered it hypodermically, as recommended by Bourneville and Bricon, but with unsatisfactory result. He prefers the powders by the mouth, containing twenty centigrammes, of which two or three should be given daily.

The results obtained in twenty-one cases were as follows. In ten cases of diarrhœa with tuberculosis (three of which had intestinal ulceration), in eight of catarrhal diarrhœa, and in three of arthritic diarrhœa of four months' standing, the cotoine was given as directed, and with success in all except two cases of tuberculosis. Fronmüller, out of ninety-three cases of diarrhœa following typhoid fever, noted

* At my suggestion, Mr. Geo. J. McKelway, 1412 Chestnut Street, will furnish complete sets of these dressings, all ready for use, in a convenient case.

only nine cases of failure. Parsons, Burney Yeo, and Rohrer have also used it with remarkable success in infantile diarrhœas. These results are sufficient to assure cotoine a high position in therapeutics.—*Bulletin Générale de Thérapeutique*, August 30.

Nocturnal Incontinence of Urine in Children.—Dr. Picard has found prompt results follow the application of faradism, one pole being applied to the perineum, the other over the abdomen in the hypogastric region, or in the rectum. In some cases it was necessary to introduce one of the poles into the urethra, the other into the anus. The current was passed for from two to five minutes, either daily or every second day. Internally, iron may be given in combination with ergot or strychnine. Hydrotherapy is a powerful tonic, but should be administered with caution. Sea-water baths are especially useful where the patients are lymphatic or scrofulous, and sulphur-baths for nervous children. If the incontinence be associated with or dependent upon vesical inflammation, the injection of nitrate of silver (one or two grains to the ounce of water) may be practised with advantage. When the urine is decidedly acid or of unusual density, diluent or alkaline solutions (sodium bicarbonate) may be drunk. The child should be taught to extend the time between the acts of urination during the day, so as to reduce the sensibility of the bladder and train it to tolerate the presence of urine for a longer period. Of course, due attention is to be given to eating and drinking, especially at the evening meal. In some cases moral treatment, in the shape of corporal punishment, is very effective, and gives a better result than medicine.—*Le Progrès Médical.*

[Before recommending the rod, the physician should ascertain whether or not the cause may not be beyond the child's control, as, for instance, where it is due to albuminuria, diabetes, or ascarides.—Ed. P. M. T.]

Massage in Certain Fractures preferred to Immobilization.—In a communication recently read before the Société Médicale des Hôpitaux, M. Just Lucas-Championnière gave expression to the following conclusions :

Immobility in the treatment of some fractures is habitually much too prolonged and much too general.

In intra- and para-articular fractures it is accompanied by decided dangers.

Except in cases of great primary displacement, fractures of the radius and fibula do not need fixed dressings.

Massage relieves pain and favors repair.

Passive motion prevents stiff joints and subsequent lameness or pain.

Massage properly conducted acts well from the beginning, and can be continued in conjunction with other treatment. By its means the length of treatment is materially reduced.

Fractures in the vicinity of large joints are less suited for primitive massage, but they unite very well without immobilization, and passive motion and secondary massage are very successful in hastening union.

Fractures complicated with wounds of the soft parts treated in the same manner have furnished results which the old treatment, in the author's experience, had never afforded.

Finally, the complications, neuralgic pains, and crippled or weak limbs are due generally to the immobilization of neighboring joints: in these cases no treatment can compare with massage for the removal of pain or the restoration of function.—*Revue de Thérapeutique Méd.-Chir.*, No. 15.

Warts cured by Internal Medication.—M. Colrat reported a series of cases to the Lyons Society of Medical Sciences, illustrating the treatment of warts by magnesia taken internally. Several children to whom ten to fifteen centigrammes (two to two and a half grains) twice a day were administered were promptly cured; others proved refractory for several months; while others still were absolutely unaffected by the treatment. Even large warts (not polypiform) have fallen off under this medication. The well-known tendency to contagion—*i.e.*, from the hand to the face—has been attributed to a specific cause; and M. Cornil has found a microbe in tissue of the little growth. M. Aubert reported the case of a woman whose face was covered with warts, though none were found on her hands. She recovered entirely after the administration of magnesium sulphate—six grammes daily—at the end of six weeks. M. Roux mentioned a case having large and numerous warts cured in fifteen days by the administration of fifty centigrammes daily.—*La France Médicale*, October 16.

PHILADELPHIA
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EDITORIAL.

THE MALARIAL BODIES OF LAVERAN.

THE observations of Laveran on the presence of certain organisms in the blood of patients suffering with malaria are being confirmed on all sides. The Italian observers Marchiafava, Celli, and Golgi, whose opportunities for the study of paludism in all forms are unequalled, have found essentially the same changes, and in this country Councilman, of Baltimore, has determined their presence in all cases of malaria examined by him.

At the conversational meeting of the Pathological Society of Philadelphia, November 3, Dr. Osler communicated the result of a study of the blood in over fifty cases of ague, and he too finds the bodies described by Laveran to be constant features. At the Washington meeting of the Association of American Physicians, if we remember rightly, Dr. Osler expressed himself rather doubtfully as to the nature of the bodies he had seen, but further study has evidently convinced him of their parasitic character.

He described the bodies as occurring both inside the red corpuscles and free in the plasma. The intra-cellular form appears as either a hyaline or a darkly-pigmented body, filling one-third or one-half of the corpuscle, and undergoes slow amœboid changes. The hæmoglobin of the corpuscle is gradually destroyed by the organism, and the stroma becomes pale and finally colorless. There seems to be no doubt whatever about the amœboid character of these movements, which are readily followed with a high-power objective. The forms occurring outside the corpuscle are still more remarkable. These are (1) small, circular, pigmented bodies, (2) curious crescent-shaped organisms, and (3) an extraordinary flagellate body resembling an infusorian. The pigmented crescents have been noted by all observers, and are much more readily seen than the amœboid bodies. They do not occur so frequently, and apparently only in the later stages of the disease. The flagellate form, also pigmented, is still less common, and was seen by the lecturer in only six cases. The movement of the flagella is very active, so that it brushes away the red corpuscles in its vicinity.

The relation of these forms to one another is still doubtful, though they probably represent phases of development of the same organism. He also described a segmentation in certain forms, which, if followed, may give a clue to the life-history. In the absence of fuller details, it seems impossible at present to classify the organism, though its affinities are evidently with the flagellate infusoria. Marchiafava and Celli have suggested for it the name *plasmodium malariæ*.

Dr. Osler did not seem prepared to give a positive opinion as to their causal connection with the disease. They do not, like the spirillum of relapsing fever, occur only in the paroxysm, but appear equally abundant in many cases both before it and after. The acute cases, however, seem to have the pigmented bodies in the corpuscles, while the more chronic forms have the crescents. Perhaps the most important point at present with reference to these bodies is the valuable aid they afford in diagnosis. The cases mentioned by the lecturer, and also by Dr. Musser, in the discussion, illustrate the importance which these bodies may hereafter assume in the detection of doubtful cases.

Another most interesting feature is the influence of quinine in reducing their number in the blood and finally destroying

them altogether. To us this seems one of the strongest arguments in favor of the causal relationship of these bodies and the disease. It is well for us, however, to be cautious. We have not yet forgotten Salisbury's palmella or Klebs's bacillus malariæ. These malarial bodies of Laveran, however, are readily demonstrated, and the studies of five or six independent observers in different parts of the world practically agree, so that we may reasonably hope that at last we have something tangible, which further observations will show to be intimately connected with the production of the disease.

PRACTICAL ASEPSIS AT THE PENNSYLVANIA HOSPITAL.

IN a general way, every practical surgeon has become familiar with the fact that the introduction of Listerism—by which we understand the application of means with the definite purpose in view of preventing sepsis in wounds—has within the last ten years given a great impetus to operative surgery. Operations within the peritoneal cavity, and upon the brain, which defied the skill of a preceding generation of surgeons, are now not only rendered legitimate, but also are performed successfully almost daily. The advantages of antisepsis in wound-treatment have been so fully demonstrated that several European governments have included packets of antiseptic material in the individual military outfit, in order that the soldier may carry with him upon the battle-field appliances for the primary dressing of wounds.

Notwithstanding the fact that proofs of the superiority of the new and only scientific methods over the old have accumulated until they appear logically irresistible, we find that many surgeons still conduct their practice, both hospital and private, according to the routine and empirical methods of a score of years ago. Others apply them in part or inefficiently, and therefore only invite failure and bring discredit upon the system by their neglect.

At the Pennsylvania Hospital during the past six months it is claimed that the aseptic method of wound-treatment has been carried out systematically and completely in the service of Dr. Morton. Some of the results we have already laid before our readers. We do not exaggerate in making the statement that the introduction of the aseptic system of dressings has revolutionized the system of wound-treatment in an institution which has always been noted for its strict cleanliness and successful surgery. Erysipelas and septicæmia have been banished from the wards, and even suppuration is now rarely permitted to occur. Some of the results may be mentioned for purposes of comparison. Amputations, as the rule, are dressed only once, and retain the original dressing until the expiration of three weeks: elevation of temperature rarely occurs, even after grave operations. In a lacerated wound of the knee, opening the joint and tearing the ligaments and skin, the dressing was not removed until the seventeenth day; no suppuration had occurred, the temperature remained about normal, and the wound was found perfectly healed upon removing the dressings. Two cases of compound depressed fracture of the skull recovered in a few days as though from a simple wound of the scalp. A ruptured tendon of the biceps was replaced and stitched deep within the deltoid muscle, and the wound united by first intention, with restoration of function. An excision of the cuboid bone for distortion of joint in a case of club-foot was equally successful. These results are simply perfect. The details of the method of wound-treatment which accomplishes such results must be of the greatest interest to the profession, and we therefore are glad to be able to give them, through the courtesy of Dr. Morton, on another page.

Dr. Morton very justly says that there may be many other ways of securing immunity from wound-infection, and that he does not insist upon the methods practised by him as being the best for all, although he has found them the best for himself; but he desires to lay especial stress upon the fact that, unless means are adopted which secure complete asepsis, Listerism is not practised. Partial antisepsis is not antisepsis at all.

The question is pertinent concerning the possible medico-legal complications arising out of the new surgery. If wounds made in the course of major or minor surgical operations can be kept absolutely aseptic, and the means are well known and open for all to adopt by which this end may be attained, what responsibility will attach to a surgeon who neglects to adopt antiseptic precautions, if his patient suffer subsequently with suppuration or septicæmia? A few suits for malpractice would have the effect of stimulating the interest of surgeons in the new surgery. Will they be needed?

SOCIAL AND UNSOCIAL MEDICAL SOCIETIES.

AT the meetings of the American Medical Association and other national organizations the Committees on Entertainment have important functions, and the success of the meetings is largely dependent upon the proper performance of their duties. It would be a consummation devoutly to be wished that every medical organization would appoint a standing committee on the "Promotion of Sociability among its Members." We have attended meetings which were quite the reverse of social in their tone, and we feel sure that the systematic cultivation of the amenities under the direction of an active committee would largely increase the attendance at our medical societies.

Some of the prominent medical practitioners of Baltimore, at the suggestion of Dr. George H. Rohé, have organized a medical society there which holds monthly social meetings, at which a good dinner is the principal subject of discussion. It is appropriately called the "Flint Club," in honor of the late Professor Austin Flint, who was eminently social in his tastes. By such means good fellowship, friendly intercourse, and mutual regard can certainly be advanced in the profession. It is suggested that Flint Clubs might well be instituted in other cities where similar social medical organizations either do not exist or are confined to the alumni of a particular school, or are otherwise exclusive to the general practitioner.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

THE French Surgical Congress.—The second annual session of this new institution was opened on the 18th instant, under the Presidency of Professor Ollier, of Lyons, and the Vice-Presidency of Professor Verneuil, of Paris, who will preside next year. The meetings are held in the grand amphitheatre of the Faculty of Medicine, which is fitted up with considerable taste under the directions of Professor Pozzi, who is the General Secretary to the Congress. On opening this session, Dr. Ollier said that the young Association, now in its second year, would be sure to meet with great success, which was already in fact guaranteed to it by the large number that have already united with it, not only French surgeons, but also those of foreign countries. The International Congresses, he said, give splendid results, notwithstanding the difficulties involved by the diversity of languages: what, then, may not be hoped from a Congress using the French language only? In closing, he insisted on the necessity of division of work in our scientific medical studies, and he said that specialties must continue to be produced, and that they should form associations in order to elaborate and concentrate their ideas.

The first paper read was that of Dr. J. Reverdin, of Geneva, "On Accidents consecuive to Extirpation of the Thyroid Gland."

M. Thiriar, of Brussels, followed with "The Importance of daily determining the Quan-

tity of Urea in Abdominal Surgery." He found that this gave very important results in diagnosis, and advised certain precautions in its use to obtain success:

1. The analysis should always be made of a sample of the total amount of urine passed in the twenty-four hours. It should also be repeated several times, and for a number of days: at least ten days' results must be taken for an average.

2. The patient ought not to be suffering with tuberculosis, albuminuria, or fever.

As a rule, an adult will excrete twelve to twenty-four grammes of urea in the twenty-four hours. In benign tumors the average was fifteen to twenty-five grammes.

Observation I.—Patient, 42 years of age, whose doctor gave a diagnosis of ovarian cystoma, but the operator was inclined to think it a tumor of the spleen. The urea excreted daily was eighteen grammes ninety-one centigrammes, and the white globules were only one to twenty red ones. He thereupon gave a diagnosis of hypertrophy of the spleen, which was confirmed after operation.

Observation II. was also a splenic tumor, which this time had been diagnosticated as cancer of the omentum. The average of urea daily was nineteen grammes forty-three centigrammes. Operation once more confirmed the diagnosis of tumor of the spleen.

In these tumors, then, the quantity daily excreted was *over* twelve grammes. It is quite different in malignant tumors, for here the cellular nutrition is rapidly interfered with, and the result is a relative incapacity to form urea. Cases to prove this were the following:

Observation III.—A woman showing signs of an ovarian cyst. Upon examination of the urine it revealed only four grammes of urea. This put him on his guard, and he first made a puncture, which brought out a greenish liquid and proved that it was a case of cancer of the omentum.

Observation IV.—A Brussels lady of 45, presenting a uterine tumor. Analysis of the urine revealed only 8.42 grammes of urea. Operation proved it to be a malignant neoplasm.

Several other cases were reported, all tending to prove the great utility of determining the quantity of urea eliminated in diagnosticating abdominal tumors. In benign tumors the daily amount he had always found *over* twelve grammes, and in the malignant forms it was always *under* the twelve grammes.

Professor Guyon, of Paris, followed with "Indications and Contra-indications for Rapid Lithotrity."

The second morning was taken up with M. Vaslin's paper on "The Nature and Treatment of Tetanus," in the discussion of which a large number of the surgeons present took part. It was followed in the afternoon by a number of "questions diverses," among which was that of "Vaginal Hysterectomy," by Professor Richelot, the eminent surgeon, and the chief editor of the journal *L'Union Médicale*. Dr. Richelot said, "This operation is still young in France, as I can find only thirty cases in which it was performed, and ten of them were those upon which I myself operated. The operation is divided into three parts,—isolation of the uterus, treatment of the broad ligament, and treatment of the wound itself. The treatment of the broad ligament is the delicate part of it, owing to the difficulty that exists in applying ligatures, and the hemorrhage that results is the principal cause of death from the operation. I have advised for a long time the application of 'forcipressure' in these cases, and this method has been found favorable to success in these operations. There has been a great deal of discussion on the question of priority in the use of forceps-pressure, but I will not now enter on that debate, as it seems to me to be useless. I will simply say that the method has found an exceptionally happy application in the operation of vaginal hysterectomy. In regard to the treatment of the wound, we find it now entirely changed by the use of the forceps, as we no longer have to use a drain, for they assure the outflow of all liquids; nor do we need to use sutures, as the forceps are long enough to extend beyond the external opening of the vagina. This operation is, in fact, so easy of performance, and so safe, that I do not hesitate to advise it in all cases of cancer of the uterus that can be operated upon. Nothing should be left to the form of ablation called 'susvaginal.' If it can cure cancer sometimes, surely the more radical operation of vaginal hysterectomy, as now performed, is much better and more thorough. In fact, I think the operation is sufficiently benign to advise it not only in uterine carcinoma, but also in cases of tumors that are not of a malignant nature, such as uterine fibroma that are very painful and by loss of blood threaten to destroy the patient.

"I would also advise operation by this means upon those forms of prolapsus and uterine retroversions that are rebellious to other treatment, and I think that one may go as far as to use this operation in some cases of uterine inversion and in utero-ovarian neuralgia."

M. Duplouy, of Rochefort, M. J. Boekel, of Strasburg, M. Tédenat, of Montpellier, and M. Demons, of Bordeaux, all spoke in favor of the operation.

When M. Péan, of Paris, asked to speak, there arose considerable excitement, for it was known that there had been several letters published between Drs. Richelot and Péan on the subject of priority in using forceps-pressure, and it was understood that M. Péan would claim the entire invention and use of artery-forceps. The facts are that he has for some years been in the habit of using all sorts of

artery-forceps in his surgical operations at the St. Louis Hospital, but it must be admitted that M. Richelot deserves the credit of using them with such great benefit in the above-mentioned operation.

Dr. Péan claimed that he had for a long time advised preventive pinching of vessels not only in the abdomen, but elsewhere in the body, and spoke of his operations in the mouth by the aid of artery-forceps, going so far as even to compress the femoral, and he claimed the method as his, and blamed those writers who spoke of the forceps of Mariaud (an instrument-maker) and the bed used in ovariotomy, when it and all such instruments were made after M. Péan's designs. He did not claim to have invented the word "forcipressure," which belonged to M. Verneuil, who acknowledged it. (Upon inquiry we have learned that M. Koeberle claims to have invented all the methods of applying pressure by forceps, so that this part of the question is complicated.) At the moment of writing the Congress continues, with a very large attendance.

To turn to our usual work, an interesting clinic on the "Treatment of Simple Chancre and its Complications," by Dr. Mauriac, at the Hôpital du Midi, will serve to show the present mode of treatment in France in these affections, and if it is not original it may at least be useful. This hospital is an ancient and celebrated one for syphilitic diseases. It has three hundred and fifty beds, and it was first of all set aside for the use of nurses and newly-born syphilitic children, but afterwards it admitted all persons having venereal diseases. A few years ago a further change was made, and the sexes were separated by the creation of the Hôpital de Lourcine for women with these disorders, leaving this hospital for males only, so that at present it is one of the most important here for the study of venereal diseases. Professor Fournier's service at the Hôpital St. Louis still continues also to attract the attention that it deserves under the direction of that eminent speaker. Custom in the United States has warranted the name of "chancroid" for what the French call "chancre simple," but they both mean that form of contagious venereal disease or ulcer which is not accompanied by any constitutional syphilitic infection. Dr. Mauriac showed, in his opening remarks, that it was a local virulent affection that seldom extended farther than the nearest lymphatic ganglions. He noted as a curious fact that great accumulations of individuals constitute a cause of increase in this disease. For instance, in 1875, as at present, there was very little of this disease, but in 1878, when the city was so full, owing to the Paris Exhibition, there was a considerable increase, a very large number of cases being treated. So he thinks that the coming Exposition in 1889 will largely increase the number. (Happy prospect!) We pass over the doctor's excellent description of chancroid and its complications, and come to the treatment, as being the part most interesting to compare with ours at home. He said, "In speaking of the diagnosis I have let you see that modern therapeutics is not powerless before this affection and its complications, and I then said that many liquids will destroy chancroid,—such as all the acids, all the alkalies, alcohol, chloroform, and even vinegar,—but I will add a formula the efficacy of which has often been proved to me:

℞ Acid. citric., 3 grms.;
Acid. hydrochloric., 3 grms.;
Tinct. ferri perchloridi, 3 grms.;
Aquæ, 30 grms. M.

This you will apply yourselves as wanted. Destructive cauterization is indicated only when the chancroid is commencing, and when it is not situated on parts which we may fear to attack,—for instance, when it is near the urethral canal, and where one might produce a fistula; also it is contra-indicated when the sore is of great extent. If you decide on caustics, take the most energetic ones (and the best is the chloride of zinc). Diday employed equal parts of wheat flour and chloride of zinc, and he applied it in the form of a ring just the size of the chancroid, which he left in place until it melted: it certainly protects the neighboring epidermis. I, however, use a saturated solution of chloride of zinc, with which I paint the ulcerated surface sometimes twice or three times, but often only once will bring about a modification, and a radical change will show itself first in the disappearance of the pain in the chancroid (which do not confound with the pain produced by the cauterization itself, which is very severe); soon after you will notice that the surface of the ulceration has changed, its borders will fall away, and the centre will rise; but wait still some four or five days before promising a cure, as a small portion of it that has not been attacked by the caustic will be quite sufficient to reinoculate the disease, and your work must be done over again. When there is phagedænism I prefer the use of the thermo-cautery. Chancroid being an acute affection, it has been said that it is useless to cauterize, and some physicians employ frequent washing of the part with aromatic wine or this solution:

℞ Chloralis, 3 grms.;
Aquæ, 300 grms. M.

Iodoform is difficult to employ in city practice, owing to its bad odor: this is a pity, as it will modify it very quickly and take away the pain. All these different substances may be indicated according to the seat of the chancroid. Remember never to cauterize them when they are on or close to the frænum penis or in the vaginal *culs-de-sac*. In women, as a rule, they heal more easily than

in men, and you will not need in their cases such energetic measures. Nitrate of silver is not bad, but employ it always in solution; never use the stick- or pencil-form, as it will wound the lymphatic vessels, which many practitioners think is the starting-point for venereal bubo.

"The treatment of the complications of chancroid merits your best attention: by itself, it is an inflammatory process that may be accentuated according to the patient's temperament or habits (alcoholism, etc.), so that a cauterization badly done may lead to a violent inflammation, and on to gangrene or phagedæna. Often these general causes are aided by a local one, such as paraphimosis, etc. The rule is to open all closed parts and wash them out with a solution of hydrate of chloral or boric acid. Phagedæna is a sort of molecular gangrene which depends not on the malady itself, but on the condition of the patient. Outside of ordinary causes, such as bad air or food, alcoholism, etc., there are individual cases occurring in persons who seem to be in the best of health otherwise. The chancroid takes a pale aspect, the borders get livid, and the ulcerated surface increases on all sides: cases have even been known that extended to the groin and perforated the bladder. It is very difficult to treat: tonics, iron, change of air, good hygiene, etc., are of first importance. Locally, cauterization is the treatment, but unless done at once it must be used with great caution; and here iodoform becomes a most precious remedy, dusted on well three times a day. The powder named after Bellini has been advised, but it is very dear and the formula is not constant. Another complication is the extension to the lymphatic system of the groin. Frequently it will extend only to the nearest lymphatic ganglion, but, as a rule, when your patient complains of pain in the groin, and there is a swelling, he has a bubo, and in a few days it will be ripe in most cases. The bubo most often appears in three or four weeks after the chancroid. As soon as you see it I advise you to make a puncture into it clear down into the gland itself; then you will most likely see some pus come out, which will relieve the tension, but you have not destroyed the virulent nature of the tumor in this way. It will be necessary to attack it with caustics, and, as before, chloride of zinc is the best to use. However, do not commence at once; you must wait for five or six days after the opening of the abscess, otherwise the chloride of zinc might fuse over into the adjoining tissues: so wait until it has well opened, and in the mean time use dressings of chloral solution."

New Method for Detecting Albumen in Urine.—Professor Quinquand, speaking at the Société de Biologie this week, gives this new method to determine the presence of albuminoid substances in urine. It is very simple, and ought to find great use in all clinical practice. It consists in simply filtering the urine and then adding to it a few drops of the well-known copper solution of Barreswill (that is used to detect sugar in urine). It is then heated up, and at once a characteristic and beautiful violet color appears (that is, if there is the slightest trace of albumen in the urine). Dr. Quinquand says that there are a number of kidney-alterations in which the albumen is rarely detected by the means usually employed, but that this solution will show the faintest trace of albumen in urine. We are reminded here that it is generally Fehling's solution that is used in America for sugar, and not that called Barreswill's here (which is the one Dr. Quinquand means), so we add the mode used here:

"*To Make Barreswill's Solution.*—Take 40 parts of crystallized carbonate of sodium, 50 parts of cream of tartar, and 40 parts of caustic potash, and dissolve them in 400 parts of water; also mix (apart) 30 parts of sulphate of copper in 250 parts of water; add these two solutions together and filter them, then add filtered water enough to make a litre in all."

To Purify the Air in Wells.—Several men having been killed here lately by the vitiated air in wells they had descended to make some repairs, M. Gréhant recalls attention to his recommendation always to introduce an animal into such wells before attempting to descend; he also now suggests a plan to draw the impure carbonic and other gases out of them by the use of a section of stovepipe, which is lowered into the well and fastened, and then a fire of charcoal is placed around the pipe at its upper extremity, a short distance from its summit, and at once on its heating up there will be a draught of air from within outward which will soon purify the well; but an animal must be tried on it first always for an hour before allowing men to descend.

Injection of Gaseous Medicaments per Rectum.—We said something in a former letter on this subject, which is now attracting great attention here. Professor Cornil spoke about it at the last meeting of the Académie de Médecine. Claude Bernard first showed that gases injected into the rectum were eliminated by the lungs without provoking any such accidents as the inspiration of the gases might cause. When we mix carbonic acid gas (which is very well tolerated by the rectum and lungs) with some medicated gas or vapor and have it injected per rectum, this last will be eliminated by the pulmonary air-cells, on which it will act directly.

The results obtained by this method which have been reported are most satisfactory: the respiratory rhythm is favorably modified; there is an increase of strength and a disap-

pearance of the fever and night-sweats. It was first tried by Dr. Bergéon, of the Faculty of Lyons, and is at present being used by Dr. Chantmesse, the chief of the pathological laboratory and physician to St. Antoine Hospital in Paris. So far it has been used in cases of asthma, bronchitis, whooping-cough, and pulmonary phthisis. Two of Dr. Chantmesse's patients who had severe attacks of asthma were given at once on entering the hospital injections of carbonic acid gas charged with sulpho-carbonated vapor, and there was an almost immediate relief in the dyspnœa, while after a few days' treatment the respiration became free. Nine other patients in the same service who had phthisis, with presence of the characteristic bacilli in the sputum, also obtained a considerable amelioration; the augmentation in weight was remarkable (from one to three pounds a week), with the cough and expectoration very much diminished. One of the last-mentioned patients gained nine pounds in six weeks. Care must be taken in the use of the different gases,—chlorine, bromine, ammonia, iodine, and turpentine,—some of which will cause inflammation of the intestinal mucous membrane. To use this treatment two operations are needed:

1. Manufacture pure gas, to prevent intestinal intolerance. To do this, take a large wide-mouthed bottle and put in it first of all three tablespoonfuls of bicarbonate of sodium, and adapt to this bottle a rubber cork with a rubber tubing coming from it to allow the gas to pass, and a hole to allow a funnel (glass) to be passed in; then make a solution of dilute sulphuric acid (of two hundred grammes of acid to a litre of water), pour this into the flask from time to time by the funnel, and as the gas escapes receive it in one of the rubber sacks that dentists use for nitrous oxide gas, holding about six litres.

2. The second operation consists in retaking this carbonic acid gas, mixing it with the medicinal vapor, and introducing it into the rectum with the usual form of rubber bulb and tubing; or the carbonic acid gas can be made to pass through a bottle containing the medicament.

Professor Cornil has instituted a series of experiments in his service at the hospital, and he will give the results soon: we will visit the patients also, and be able to give a personal report of the method.

THOMAS LINN, M.D.

PARIS, October 22, 1886.

NEW YORK.

THE cause of medicine is not asleep in this city. The medical societies, including the Academy of Medicine with its several Sections, the Medical Society of the County of New York, and the Pathological Society, have begun work actively, and, if we may judge from the amount of material presented at the first two or three meetings of what will come during the remainder of the season, there will be no complaint on the part of the medical journals for want of matter with which to fill their pages. Abstracts of the scientific proceedings of several of the Societies have already appeared in the *Times*, but mention may here be made of a donation to the Academy of Medicine of twenty-five thousand dollars by Mrs. Woerishoffer, who was induced to make the donation because of the interest manifested by her husband in the advancement of medical science, and because of the high and purely scientific position taken by the Academy, and its growing need for more room and for a fire-proof building to receive its large library. Ex-President Dr. Fordyce Barker, in offering resolutions of thanks to Mrs. Woerishoffer, expressed the hope that the Academy would soon come into possession, through the liberality of the wealthy people of the city, of a million dollars, the amount which he had formerly said was needed to make it the centre of medical science in this city, as it was destined to be.

Philadelphia people who are in a position to be charitable have come to recognize the wants of medical science and art, as has been repeatedly shown of late by donations of large sums for building hospitals and institutions for advancing medical learning. Henry George says, "All honor to the Astors and the Coopers for their gifts of libraries to the people, but," he adds, "it is no honor to the people to have to accept such gifts, for they should be in a position to build institutions for themselves." The doctors seem to think that, until they shall arrive at a point where they can build institutions worth a million dollars for themselves, they will give honor to those outside the profession who are able and willing to found such institutions for them.

While on the subject of donations to medical institutions, let me say that the new building for the College of Physicians and Surgeons will be completed and in use a year from now. The walls are up, and one can get a good idea of how the building will look when completed. The main entrance faces Fifty-Ninth Street and Roosevelt Hospital; joining the two wings, one facing Fifty-Ninth Street and the other Sixtieth Street, is the building containing the large lecture-room or amphitheatre. The structure is principally of a light-red brick. Not being wedged in between other houses, there will be a better opportunity for architectural effect than is possessed by some of our medical institutions.

It is understood that the medical department of the University of the City of New York will commence erecting the laboratory, for which a donation of one hundred thousand dollars has been received, next spring.

Bellevue has new and comfortable seats in

its amphitheatre, together with a place under the seat to put one's hat. The arms are high, making it somewhat inconvenient for taking notes during the lecture. It is a noticeable fact that our medical colleges have not a free coat-room: hence the unseemly stacks of wearing-apparel in the lecture-room.

Our medical colleges start out with even more than their usual number of students. At the College of Physicians and Surgeons about seventy more are enrolled than at this time last year, and at the University about fifty more, while Bellevue has its quota. One of the requirements for graduation at Bellevue is a course in the Carnegie or some other pathological laboratory, including the study of pathological and histological anatomy and the examination of the urine. At this college Dr. Janeway fills the position made vacant by the death of Dr. Austin Flint. At the University, Surgeon Billings, U.S.A., lectures on hygiene in October; the Chair on Physiology in this college having been left vacant, lectures in that branch will be delivered by Dr. W. C. Thompson and Dr. E. J. Bartlett; Dr. W. M. Carpenter has also been put down for a medical clinic in January; Professor R. A. Witthaus fills the Chair on Chemistry.

At the College of Physicians and Surgeons Dr. George L. Peabody fills the place of Professor Edward Curtis on Materia Medica, Professor Tuttle lectures on Gynæcology, and the names of Dr. W. T. Bull and Dr. R. A. Hall appear, in connection with those of Professors Markoe, Sands, and Weir, in the department of surgery.

At the meeting of the Medical Society of the County of New York, October 25, Dr. Laurence Johnson was elected President and Dr. F. R. S. Drake Vice-President. At this meeting Dr. Drake, of the Board of Censors, read a report from Mr. Purroy, counsel for the Society, regarding the prosecution of illegal practitioners, by which it appeared that out of over three hundred cases investigated during the year proceedings were instituted in forty-four, and, excluding some in which the clemency of the Society was shown, and a few others in which a trial had not yet been reached, all had been convicted. It may be remarked that the Society is doing a good work in freeing the community of a dangerous class of so-called medical men, and in a manner not to indicate, nor to appear to indicate, undue severity or self-interest. The Society has been very lenient wherever there has been any just warrant for leniency.

As bearing upon medical ethics, the question of recommending proprietary medicines arose, and a fact was brought out by some remarks made by Dr. Drake which merits the attention of the profession. On a circular recommending a proprietary medicine Dr. Drake's name, and that of Dr. Loomis, appeared without their previous knowledge. They wrote, calling the owner's attention to it, and were favored by an impertinent reply. They then threatened suit, but a compromise was reached. Probably many of the numerous recommendations of proprietary articles by physicians appear without the presumable author's knowledge, and if some one would bring suit and obtain exemplary damages it would probably put a stop to such piracy. We see appended to a recommendation of some nostrum the name of Secretary Manning, Dr. Davis, or some other distinguished person, and, while we know that it is not at all probable that either of these gentlemen would give such a recommendation even if he had experimented with the nostrum, yet the proprietor knows also that it is not likely that Mr. Manning or the other gentlemen will ever see the advertisement, and that they will not be likely to have either time or disposition to reply to letters inquiring whether they had written such a recommendation. Moreover, not all the people who read it would write to those distinguished gentlemen, asking whether it were true. Thus the quack without conscience is sure to reap a harvest by the lie, while the people are the asses who give him the harvest,—viz., their money. I would suggest, however, that, although the people are so willing to play the part of asses, it is no reason why the impostors should not be made to feel the weight of the penal law.

The Institute for carrying out Pasteur's method of inoculation against rabies, under the charge of Dr. Mott at the Carnegie Laboratory, has had little material to work upon. It would seem that but few persons in this country are bitten by mad dogs, or else that those who are bitten have too little faith in the method to submit to the inoculations. It would also seem that there is an impression in the minds of the people that the method may prove not altogether harmless; otherwise, if they thought it offered even but the slightest chance of preventing the development of so terrible a disease, it would become fashionable to go to the Institute when bitten by a dog, whether it were mad or not.

The post-graduate medical schools are prospering. The Secretary of one of the schools told me that they had on their list two ex-presidents of a State Medical Society and several professors in medical colleges. Their class, he said, is larger by a very considerable number than that of any previous year. Being asked whether they met with any opposition from the colleges which confer the degree of Doctor in Medicine, he replied, "Not in the least;" that they were on the best of terms. As they received only graduates in medicine, the only effect their attendance had upon the medical colleges was to diminish the number of matriculants at those colleges, not diminishing the number of their graduates.

R. C. S.

PROCEEDINGS OF SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

AT a stated meeting of the Academy, October 21, 1886, the President, A. JACOBI, M.D., in the chair, a gift to the Academy of twenty-five thousand dollars from Mrs. Woerishoffer was accepted, and her name and that of her husband ordered placed on the roll of permanent benefactors.

The death of Ex-President Dr. Anderson, at the age of eighty-seven years, was announced by the Statistic Secretary.

PULMONARY EMPHYSEMA.

Dr. FRANCIS DELAFIELD read a paper on this subject, illustrated by the stereopticon. He first gave a general idea of emphysema obtained from the text-books, and said that while they were such as the student entertained at the time of graduation in medicine, he soon found that those ideas did not correspond with what he observed. He found that compensating and senile emphysema were not of much importance, but that substantive emphysema was, and that it was a very common and a very serious disease. He found at the autopsy that dilatation of the air-vesicles was not always in proportion to the severity of the symptoms. If he injected the blood-vessels of the lungs artificially he found that he could obtain a very perfect injection, and he could not see exactly where the alleged obliteration of the capillaries could be. He noticed that very few patients had blown on wind-instruments, that many had not had bronchitis, and he doubted whether the expiration and inspiration theories were of much value. He found that many cases were hereditary; that the immunity from phthisis and pneumonia in patients with emphysema was hardly all that could be desired; that the barrel-shaped chest was not so often present as he had expected; that exaggerated vesicular tympanitic resonance was not very common. He was occasionally puzzled by cases which seemed to be cases of emphysema, but which had not the symptoms which he had been led to believe were characteristic of that disease. It seemed, therefore, worth while to abandon the traditional symptoms of emphysema, and to state fairly what we do and what we do not know about the disease.

If we considered all the cases of vesicular emphysema, they could be divided into three classes, as heretofore,—namely, senile, compensating, and substantive emphysema. Senile emphysema was of common occurrence, although not of great importance. It seemed to be a senile change in the parenchyma of the lungs. The walls of the vesicles were thin; their cavities dilated; they might rupture into one another. There was, however, no obstruction to the passage of the blood through the lung, no dilatation of the right ventricle of the heart, no general venous congestion. This condition, when well developed, gave the loud vesicular tympanitic percussion-note said to be characteristic of emphysema. There was no marked dyspnœa, but chronic bronchitis was often present. The disease had no decided effect on the general health. He believed that in some patients substantive emphysema was first developed, and as they grew older it was modified by senile changes into something resembling senile emphysema. It was not always easy during the life of the patient to distinguish between senile and substantive emphysema, especially as chronic bronchitis might be present with both. But a distinction was important, as substantive emphysema was a serious matter, while senile emphysema was not.

Compensating emphysema involved only one lung or a part of one lung. It was seen most frequently with phthisis and with compression of the lung following pleurisy. In some cases the change in the lung seemed to be simply hypertrophy of its tissue, while in others there was a dilatation of the air-vesicles and a thinning of their walls. In still others the emphysema, although it might seem to compensate for the obstruction or obliteration of lung-tissue, was like substantive emphysema.

Substantive emphysema was formed by chronic inflammation, a pneumonia; and dilatation of the air-vesicles was more the result of this inflammation, and not the essential lesion of the disease. The inflammation was of the same type as that which so often attacked the endocardium, the inner coat of the arteries, the liver, and the kidneys, a chronic inflammatory change with the production of new fibrous tissue, and at the same time with atrophy and disappearance of normal tissue. The walls of the air-vesicles and of the air-passages were the parts of the lungs first involved in inflammation. These walls were in some parts of the lungs thickened, and in others thinned. Where the walls were thinned there was apt to be dilatation. Such a dilatation affected the air-passages rather than the air-vesicles, and might be confined to the former. The degree of dilatation varied very much in the different cases. It was not in relation to the severity of the symptoms, and the disease might go on to its fatal termination with hardly any such dilatation. He did not mean, however, that the condition of the lungs was not made worse by the dilatation. It unquestionably was; but, on the other hand, most of the symptoms of emphysema might be present, and the disease prove fatal with but very little dilatation. In fact, he believed that many cases of emphysema were overlooked at autopsies because no dilatation of the air-spaces was visible to the naked eye. In some cases there were little

holes in the walls of the air-passages and vesicles, formed in the spaces enclosed by capillary blood-vessels. They were found both at the periphery and at the centre of the vesicular walls, usually several in a single vesicle, some very minute, others of considerable size. Their edges were sharp-cut. They were found in vesicles of normal size as well as in those which were dilated. Although these changes in the air-vesicles constituted the essential lesion of substantive emphysema, yet the emphysema extended, as a rule, and reached other parts of the lung; and the epithelial cells which lined the air-spaces were increased in size. The mucous membrane of the bronchi became the seat of catarrhal inflammation. The disposition to the formation of new connective tissue became more marked, so that the walls of the air-cells were very much thickened and their cavities deformed and obliterated. The septa between the lobules, the walls of the bronchi and blood-vessels, and pulmonary pleura were all thickened, and very frequently there were also extensive pleuritic adhesions, so that the entire lesion assumed the form of a well-marked interstitial pneumonia.

In the milder cases there was no disturbance of the circulation of the blood, but in the severer cases such disturbances of the circulation became one of the worst features of the disease. It seemed evidently to be due to some obstruction to the passage of the blood through the lungs, for the right ventricular wall became dilated and hypertrophied, and venous congestion of the viscera and of the skin, and dropsy, were established. It had been said that the obstruction to the passage of the blood through the lungs was due to dilatation of the air-spaces and the obliteration of the capillaries in the walls. This explanation certainly could not be true for all the cases, for he found the most marked evidences of general congestion in cases in which dilatation of the air-spaces was trifling, and the complete artificial injection of the blood-vessels could be easily made after death. He believed that in a large number of cases the obstruction to the passage of the blood through the lungs was due not to structural changes, but to contraction of the small arteries in the lungs which existed during life and disappeared after death.

Dr. Delafield then gave the secondary lesions of emphysema. It was apt to begin between the ages of forty and forty-five years. Hereditary influence was marked. In general he could say that the same causes which led to chronic endocarditis, chronic endarteritis, cirrhosis of the liver, and chronic diffuse nephritis, also led to the development of substantive emphysema. Clinically it was much more important to observe the cases in which the disease was but moderately developed than those in which it was advanced, for moderate cases were to be benefited by treatment, while bad ones comparatively were not. In the lesser degrees of emphysema there was no change in the shape of the thorax; in the more advanced cases there was prominence of the sternum and of the costal cartilages. In very bad cases the barrel-shaped deformity might be reached. Pulmonary resonance might remain unaltered for a considerable length of time. When changed, it was either a rather dull note of wooden quality or exaggerated resonance, of vesicular or vesiculo-tympanitic quality. The respiratory murmur was feeble, or there was feeble inspiration with longer, louder, low-pitched expiration, or both inspiration and expiration might be exaggerated, loud, and high-pitched. Bronchitis, when present, added its sibilant and sonorous breathing and râles.

There were many persons in whom substantive emphysema developed and continued for years without giving rise to any rational symptoms, and yet even in such persons it was often possible to be pretty sure of the presence of the disease, because they were persons whose general physical condition and age were such as were usually associated with emphysema. There were other patients in whom associated Bright's disease or cardiac disease gave rise to symptoms so marked that the emphysema passed unnoticed. In the regular cases dyspnœa was one of the most marked symptoms, at first developed only by exertion, and later existing perhaps constantly. It was a question of importance as to how much the dyspnœa was due to the condition of the lung-tissue and how much to the contraction of the blood-vessels. The complicating bronchitis gave rise to a variety of symptoms,—cough, expectoration, hæmoptysis, febrile movement, night-sweats. General venous congestion gradually developed. Having described the course of the disease in different patients, Dr. Delafield said its behavior was very much like that of atrophic chronic Bright's disease,—a slow inflammation, which gradually changed the structure of the affected organs. The organs, however, continued to perform their functions moderately well until their structure had become changed a good deal, and, in addition, disturbance of the circulation had been established. Then, either gradually or with a sort of explosion, the decided symptoms of the disease made their appearance.

The views which he wished to urge on his hearers' attention were: First, that substantive emphysema was not a local chronic disease due to rarefaction of the pulmonary structure and dilatation of the air-sacs, but a chronic inflammation of the lung. It was not due to excess of inspired air over expired air. Nor was the dilatation of the air-spaces the essential part of the lesion. The result of the inflammation was such an irregular

thickening and thinning of the walls of the air-spaces as would naturally be followed by dilatation. That excessive bodily exertion might render the dilatation greater than it otherwise would be seemed probable, just as in aneurism of the aorta we must have first disease of the wall of the vessel, and then excessive muscular exertion, to produce dilatation. That the dyspnœa and general congestion were not due simply to the dilatation of the air-spaces nor to the obliteration of the capillaries, but rather to the contraction of the blood-vessels. That the main indications for treatment were to delay the progress of the chronic inflammation and to overcome the contraction of the blood-vessels.

Dr. E. DARWIN HUDSON thought the view taken of pulmonary emphysema by the author of the paper was essentially a pathological one, whereas he had studied it chiefly from the stand-point of physical diagnosis and treatment. He was still of opinion that emphysema (in its typical form) was essentially, as defined by many of the old writers, a rarefaction of the terminal bronchi and walls of the air-cells, with dilatation. He thought one of the several pneumatic cabinets would be beneficial in treatment.

Dr. CHARLES HEITZMAN said his pathological studies supported the view taken by Dr. Hudson. He thought the cases described by Dr. Delafield were not cases of pure substantive emphysema, but combinations of emphysema with chronic interstitial pneumonia. He had many specimens illustrating the disease in its simple form.

Dr. R. VAN SANTVOORD had employed caffeine with benefit, and he thought it acted in the way Dr. Delafield had suggested, by relaxing the contracted small pulmonary vessels.

The PRESIDENT thought iodide of potassium, by producing absorption of the inflammatory products, would be beneficial.

Dr. DELAFIELD had found caffeine and convallaria specially stimulating to the right side of the heart, and of benefit in emphysema, as well as in other conditions requiring stimulation of the right auricle. As to iodide of potassium, it was useful because, as he thought, of its relaxing action upon the blood-vessels.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held October 13, 1886, the President, JOHN A. WYETH, M.D., in the chair.

Dr. H. MARION SIMS presented, in behalf of a candidate, specimens illustrating carcinoma of both ovaries, and of the colon and liver, together with a small fibro-myoma in the walls of the uterus, and suppurative inflammation of the kidneys.

The PRESIDENT presented, for a candidate, a specimen of cysto-sarcoma of the mamma.

CHRONIC DIFFUSE NEPHRITIS.

Dr. CARPENTER presented, for Dr. H. J. BOLDT, the kidneys of a man who died rather suddenly, aged 45 years. He had recently begun to drink heavily, but was in comfortable health and conscious to within fifteen minutes of death. He had had no symptoms of uræmia. The kidneys presented the lesions of chronic diffuse nephritis; the heart was hypertrophied; the brain and other organs were normal.

PECULIAR BROMIDE ERUPTIONS ON THE LEGS.

Dr. R. W. AMIDON presented a young woman, subject to epilepsy, who for about four years had been under his treatment, taking moderate doses of bromide of potassium, perhaps never more than four or five drachms a day. Over a year ago she discontinued it, but recently he learned that she had been taking during the past eighteen months a mixture of the bromides amounting to six drachms a day. She then returned to Dr. Amidon, and he found the ordinary acne eruption on the face, but this usually was confined to the face and neck, perhaps occasionally reaching the chest and shoulders. But in this patient, and in two others whom he had seen, the lesion had invaded the legs and assumed almost the pustular form. He had found a description of the lesion in only one book. It commenced as a large single acne eruption, which became inflamed, with indurated, rather large base, and after rather a chronic inflammation broke down, forming what appeared to be a small ulcer: vesicles which tended to become cloudy and purulent formed in rings about the acne-spot. After a time the centre of the spot took on a reparative process and entirely healed, while the pathological changes at the periphery spread, and the vesicles became purulent, dried up, and formed a brownish scab. A section of one of these spots showed that there had not been a true ulcer; that the skin had simply been denuded of the cuticle, leaving the papillæ intact. He had in no case seen the true skin entirely invaded. The disease ran a slow course: it did not seem to depend particularly upon the amount of the bromides given. The only treatment which he had seen do good was the thorough application of the actual cautery. Dr. Amidon showed photographs of the other cases.

SIMPLE *versus* MALIGNANT ACUTE ULCERATIVE ENDOCARDITIS.

Dr. T. MITCHELL PRUDDEN presented four hearts and some culture-specimens of the Staphylococcus pyogenes aureus. In the first three cases the patients had died with the symptoms of acute ulcerative endocarditis, and the post-mortem examination confirmed the diagnosis of simple acute ulcerative endocarditis, with absence of bacteria in the diseased tissue on the endocardium. In the

fourth case, that of a girl who had developed pyæmia following a surgical operation, attended by the symptoms of acute ulcerative endocarditis, the Staphylococcus pyogenes aureus was demonstrated by the culture-method, placing the case among the malignant or bacterial variety. Inoculations of the bacteria into rabbits, with and without wounding the endocardium, were made, and in those with injury acute malignant ulcerative endocarditis developed, while in the others no endocarditis developed. Lesion of the endocardium without injection of the bacteria was also unattended by the development of the disease. These experiments went to show that a previous lesion or predisposing condition had to be present in order to invite the bacterial endocarditis. In the case of the girl, the malignant endocarditis developed on a chronic endocardial lesion.

Dr. Prudden said the cases emphasized the distinction between malignant and simple acute ulcerative endocarditis,—in the one case the bacteria being present, in the other absent.

MITRAL STENOSIS—THROMBOSIS OF THE RIGHT AURICLE.

Dr. R. VAN SANTVOORD presented the heart of a boy, aged 10 years, in whom the diagnosis of acute ulcerative endocarditis was made, whereas the autopsy showed only mitral stenosis and a thrombus in the right auricle. There had been petechial spots over the body, and general œdema, and a double mitral murmur was present.

ULCER OF THE COLON—ABSCESS OF THE LIVER.

The specimens were presented by Dr. FRANK FERGUSON, with a brief history. Dr. Ferguson also presented the brain illustrating

ANEURISM OF THE POSTERIOR BRANCH OF THE MIDDLE CEREBRAL ARTERY.

The patient, aged 48 years, died about four hours after falling suddenly and becoming unconscious. He had previously been healthy.

MALARIAL PIGMENTATION.

Dr. FERGUSON also presented specimens from two patients who had died after having suffered from malarial fever. Pigment was present during life in the blood, and at the autopsy all the organs of the body, especially the brain and the stomach, were exceedingly dark from pigmentation.

LARGE CYSTIC TUMOR OF THE SCALP.

Dr. ROBERT NEWMAN presented a cyst, about the size of an orange, removed entire from the side of a woman's head.

NASAL POLYPUS.

Dr. FERGUSON also presented the remains of a large nasal polypus, the last part having been removed by Jarvis's snare, it being the only case in which he had found the snare superior to the galvano-cautery and torsion.

REVIEWS AND BOOK NOTICES.

THE MATHEMATICAL THEORY OF ELECTRICITY AND MAGNETISM. By H. W. WATSON, D.Sc., F.R.S., and S. H. BURBURY, M.A. Vol. I. ELECTROSTATICS. Large 8vo, pp. xii., 268. New York, Macmillan & Co., 112 Fourth Avenue.

For a work of this magnitude and excellence the authors are certainly modest, in their preface, as to their claim for originality. That the treatise will compare very favorably with Maxwell's great work, or Gordon's, is evident at a glance. Whilst the greater part of this volume is strictly mathematical in its deductions, it is not at all abstruse or too difficult to follow in the hands of any student ordinarily proficient in algebra. The theory involved is that of two fluids, and the treatment is well handled. The chapters on Potential, on Theoretical Inversion in Electrical Problems, Electrical Systems in Two Dimensions, and Electrical Energy are specially instructive, and the book as a whole is indispensable to investigators in every branch of electrical work or research. W. R. D. B.

TABLETS OF ANATOMY. By THOMAS COOKE, F.R.C.S. Eng., etc. Fourth Edition, or Selections of the Tablets believed to be Most Useful to Students generally. London, Longmans, Green & Co., 1885. Small quarto, pp. 294.

These tablets have for their origin a synopsis of demonstrations given by the author in the Westminster Hospital Medical School some years since. They are convenient for students who are preparing for examinations, and form a useful companion to the several dissector's manuals in impressing dry anatomical details upon the mind: they are intended especially for those who, having already gone over the subjects treated of, desire to review the main points rapidly and comprehensively. For such the present publication offers special advantages.

CUTANEOUS MEMORANDA. By HENRY G. PIFFARD, A.M., M.D. Third Edition. New York, William Wood & Co., 1885. 24mo, pp. 268. (WOOD'S POCKET MANUALS.)

This illustrated manual in twenty-four chapters considers the anatomy and physiology, the pathology and therapeutics, of the usual disorders of the skin. It is clearly written, and the directions for treatment are intelligible. On account of its terseness and directness of statement, the work is of great service to students.

NEW REMEDIES AND CLINICAL NOTES.

THE PHYSIOLOGICAL TREATMENT OF CHOLERA, AFTER SEMMOLA.—We abstract from a recently-published work, "Nuove Ricerche terapeutiche sul Cholera Asiatica," in which this well-known Italian clinician has laid down the clinical and therapeutic experiences gathered during the recent Italian epidemic of cholera, his views on what the author calls the "physiological treatment of cholera." Semmola holds that no cure can ever be expected from any medication directed specifically against the comma-bacillus, and also warns of too heroic a therapeutic interference with the symptoms of the premonitory and algid stages.

A physiological treatment, in the judgment of the author, is one which is directed towards raising the vital energy of the body, so as to endow the same with a higher power of resistance against the disease without injuring the entire system by the bio-chemical action of pharmacal agents.

The main features of this treatment are the following:

1. Absolute rest of the affected organs—viz., the gastro-intestinal tract—by observing a strict fasting on appearance of the first diarrhœa stools. As long as the diarrhœa persists, no food whatever is to be taken. Over six thousand clinical observations in Naples have shown that even five or six teaspoonfuls of bouillon given prematurely (*i.e.*, before the stoppage of the diarrhœa) sufficed to reproduce the gravest symptoms, such as algidism and asphyxia. After the disappearance of diarrhœa and vomiting, milk may be given in very small quantities.

2. Timely excitation of the physiological powers by therapeutic, or, rather, by physiological, means. The best of these are undoubtedly repeated warm baths. To prove beneficial the baths must, however, be given in the first period of the disease, before any sign of algidism has set in. The application of the warm bath in cholera has been in vogue also in former times, but never yielded any benefits, as it was employed only in the algid stage of the affection. The warm bath is not alone useful, as was held formerly, on account of the supply of heat to the cold surface of the body (a mere physical process), but also and particularly on account of the physiological influence it exerts on the economy. The warm bath excites the peripheral nervous system, and at the same time, by reflex action, the centre of circulation. The consequence of this excitation is a harmonious restoration of the functional physiological relations between the surface of the body and its internal apparatus, especially those of the digestive tract. True, this biological process can be realized only in the first stage of the disease, when the biological relations between the superficial and internal organs have not yet been essentially altered or broken off altogether.

Through diaphoresis the bath favors besides the elimination of toxic substances from the system, which, by affecting the various nerve-centres, cause ominous alterations in the secretory, vaso-motoric, and general oxidation processes. If necessary, the bath can be repeated every one or two hours. After the bath the patient is to be wrapped up in woollen blankets, and is to be given warm aromatic and weak alcoholic drinks. It is well to give also small doses of opium (laudanum, liqueur de Battley, chlorodyne), in order to render the nervous centres less susceptible to the toxic principles, and in order to reduce the increased intestinal secretion. Opium, given at the proper time, aids and supplements the physiological treatment. —*Therapeutic Gazette*, October 15, 1886.

COCAINE IN WHOOPING-COUGH.—Dr. L. Emmett Holt (*New York Medical Journal*) tried cocaine in five cases in young children, with the result of developing serious nervous phenomena. He concludes his paper, which was read before the New York Clinical Society (September 24), with the following practical deductions:

"1. Cocaine must be used with great caution in young children under all circumstances.

"2. The spray is never to be recommended, since an uncertain quantity is given.

"3. Solutions stronger than four per cent. should not be used by swab or pencil in children under two years, and in older ones only with great caution. This remark applies to the rectum as well as to the throat.

"4. In the cases where it was tried he failed to see any notable benefit in the disease.

"5. Chloral seemed to be of very decided value in controlling symptoms due to cocaine." He suggested a more extended trial of it in this direction.

GELOSINE AS A VEHICLE FOR EXTERNAL MEDICATION. — Gelosine is a mucilaginous principle extracted from the *Gelidinum corneum*, a native of Japan. It is a colorless, amorphous, non-nitrogenous substance which forms the basis of vegetable jellies. It is soluble in warm water, rendering solid on cooling five hundred and fifty times its own volume, the result being a fine transparent jelly, which is very slow to undergo putrefactive changes. M. Guérin considers that gelosine is admirably adapted for purposes such as poultices, vaginal and urethral suppositories, etc. The jelly undergoes gradual contraction, in which process any medicinal substance contained is slowly expressed until complete desiccation is effected, thus bringing it constantly into contact with the skin. The only preparation needed is to dissolve gelo-

sine in suitable quantity in warm water, and then add the medicinal agent, either in solution or in a state of fine division.—*London Medical Record.*

MISCELLANY.

THE LEGAL STATUS OF A DEAF-MUTE.—The New Jersey Court of Chancery has had before it the question of the capacity of a deaf-mute to manage her property. The case is an interesting one, and the testimony as to the mental condition of the deaf-mute was as follows. "She is about sixty-five years old, and has never been married. The commissioners have made a report concerning her condition. They say that she is not an idiot or lunatic in the popular sense of the words; that she has been a deaf-mute ever since she was two or three years old; that she is ignorant, having never been taught any language, whether spoken or of signs; that she can neither read nor write, and cannot express to others her understanding, if any she have, of any business transaction; that she cannot be made to comprehend a business transaction, except, perhaps, a very ordinary one, involving no more money than a dollar or two; that she has learned to fetch and carry and to do common every-day housework,—that is, she can sweep, wash, cook an ordinary meal, etc.; that it is possible by rude gestures to communicate to her a desire that she should do such work; that she has never managed her property, nor any part thereof, and that the acting trustee of her estate has never informed her of the amount, character, or income of her property, and that it is doubtful whether she can be so informed; that she has always been cared for by her near relatives, with whom she has lived, by her mother for about fifty years and until her mother's death; after her mother's death by her unmarried sister so long as that sister lived, and since that sister's death by her married sister, with whom she now lives."

There were twenty-four jurors called to decide on the inquisition into her case, and of these twenty-four nineteen found that the deaf-mute was of "sound mind and capable of controlling her property by her own selection of a proper person to act for her." The other five certified that she was "not of sufficient understanding to enable her to manage her property." An application was made to the court to set aside the finding of the majority of the commissioners, and this, it would seem, was very properly granted by the court, which held that she could not manage her estate.

The judge said, "If the proof was as the commissioners certify, that she is incapable of understanding the business, or even of receiving any communication upon the subject, and therefore does not understand, and cannot be made to understand, what the necessities of the management of her estate demand, or what an agent is, or what his duties are, or, in other words, if the proof was, as they certify, that she does not understand, and cannot be made to understand, any matters of business, except it may be such as are of the simplest character; if she has no comprehension of business matters, it is obvious that she is not capable of managing her affairs, and the inquisition cannot be sustained. The jury does not find that she is herself competent to manage her business, but that she is capable of controlling it by an agent of her own selection.

"But if she cannot be made to understand what the business is, how can she select an agent to manage it? The inquisition will be set aside."

ELEVATED RAILROADS LIABLE FOR INJURIES CAUSED THROUGH NEGLIGENCE.—A recent case in the Supreme Court of New York is of considerable interest, because the class of accidents it mentions are becoming frequent. The plaintiff was walking along Third Avenue, New York City, and was injured by a hot cinder falling in her eye from the engine of a train on the Manhattan Elevated Railway. On the trial of the action, which was brought to recover damages for the injury, the fact of the accident and the place and occasion were proved, but no further evidence of the negligence of the railroad company was furnished. Upon these facts the trial judge dismissed the case, holding that, as the railroad had been authorized by law, the plaintiff, to recover, must show that it was conducted without the proper safeguards to prevent injury.

The court, on appeal, held that this was not the correct principle, and in an interesting opinion decided as follows: "It would seem to be an extraordinary proposition that a person using as a matter of right the highway, and receiving such an injury as the plaintiff did, should be obliged to show in the first instance that it resulted not only from the defendants' act, but, in addition thereto, that the defendants had not adopted the best means of preventing such an occurrence. This would necessarily involve an examination of the defendants' engine, and an examination scientific in its character, as to whether by any known contrivance it could have been avoided. It would seem more in accord with the principles of natural justice to exact such evidence in response from the company. . . . When the plaintiff proved the injury under the circumstances disclosed, the negligence of the plaintiff was established *prima facie*, and the onus was thrown upon the defendants to show absence of negligence, if it could be done. The injured person cannot be expected to attempt the useless feat of pursuing the train in order to secure an examination of

its locomotive, with a view of discovering what mode was adopted to prevent injuries such as described."

NEW APPOINTMENTS IN THE UNIVERSITY OF PENNSYLVANIA.—Daniel G. Brinton, A.M., M.D., the well-known editor of the *Medical and Surgical Reporter* of this city, and the author of valuable works upon aboriginal American languages, has been elected Professor of American Archæology and Linguistics in the Literary Department of the University of Pennsylvania. The trustees at the same meeting appointed Dr. Morris Jastrow, Lecturer on Arabic and Assyrian; Dr. Herman V. Hillbrecht, Lecturer on Egyptology; Dr. James M. Cattell, Lecturer on Psycho-Physics; and Mr. E. Kelly, Assistant Instructor in Mammalian Anatomy in the Biological Department. Drs. H. Y. Evans, Richard A. Cleemann, and F. S. Stryker were elected Managers of the University Hospital.

HORSFORD'S ACID PHOSPHATE.—We are informed that Dr. W. S. Leonard, of Hinsdale, New Hampshire, has used Horsford's Acid Phosphate in his practice for the past eight or ten years, and has been much gratified with the results obtained from its use. In various forms of dyspepsia it reaches a class of cases that no other medicine seems to touch, and he has repeatedly seen patients, where opiates were contra-indicated, obtain refreshing sleep and rest at night from a single dose at bedtime.

DR. J. R. F. BELL has removed to No. 2028 North Broad Street.

DR. F. B. HAZEL has removed to 841 North Broad Street.

DR. CHARLES S. TURNBULL has removed his office and residence to 1719 Chestnut Street.

NOTES AND QUERIES.

COCAINE-ADDICTION.

MR. EDITOR,—If any reader of your journal has met with a case of cocaine-addiction and will send me the fullest details at his command, I will thank him for the courtesy, reimburse him for any expense incurred, and give him full credit in a coming paper. J. B. MATTISON, M.D.
314 STATE STREET, BROOKLYN.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 24, 1886, *TO NOVEMBER* 6, 1886.

MAJOR B. A. CLEMENTS, SURGEON.—Died November 1, 1886, at Fort Leavenworth, Kansas.

MAJOR J. S. BILLINGS, SURGEON.—Granted leave of absence for eight days. S. O. 246, A. G. O., October 22, 1886.

MAJOR J. V. D. MIDDLETON, SURGEON.—Ordered from Department of Missouri to David's Island, New York Harbor.

MAJOR A. A. WOODHULL, SURGEON.—Ordered from David's Island, New York Harbor, to Department of Missouri.

MAJOR J. W. WILLIAMS, SURGEON.—Ordered from Department of Colorado to Department of the East.

CAPTAIN J. K. CORSON, ASSISTANT-SURGEON.—Ordered from Jefferson Barracks, Missouri, to Department of Colorado, upon expiration of present leave of absence.

CAPTAIN H. S. TURRILL, ASSISTANT-SURGEON.—Ordered from Department of the Platte to Department of Colorado.

FIRST-LIEUTENANT BENJAMIN MUNDAY, ASSISTANT-SURGEON.—Ordered from Department of Colorado to Jefferson Barracks, Missouri.
S. O. 252, A. G. O., October 29, 1886.

CAPTAIN JOHN V. LAUDERDALE, ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 249, A. G. O., October 26, 1886.

CAPTAIN JOS. K. CORSON, ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect when his services can be spared. S. O. 246, A. G. O., October 22, 1886.

CAPTAIN E. B. MOSELEY, ASSISTANT-SURGEON.—Relieved from duty in Department of the Columbia, and ordered to report in person at Headquarters, Division of the Pacific, for assignment to duty. S. O. 87, Division of the Pacific, October 16, 1886.

FIRST-LIEUTENANT WILLIAM O. OWEN, ASSISTANT-SURGEON.—Relieved from duty at Fort Schuyler, New York Harbor, and ordered for duty as post-surgeon, Plattsburg Barracks, New York. S. O. 170, Division of the Atlantic, October 29, 1886.

FIRST-LIEUTENANT GUY L. EDIE, ASSISTANT-SURGEON.—Ordered from Fort McIntosh, Texas, to Post of San Antonio, Texas. S. O. 152, Department of Texas, October 27, 1886.

FIRST-LIEUTENANT H. S. T. HARRIS, ASSISTANT-SURGEON.—Ordered from Post of San Antonio, Texas, to Fort Clark, Texas. S. O. 152, Department of Texas, October 27, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDED NOVEMBER 6, 1886.

SURGEON J. L. NEILSON.—Ordered to the Receiving-Ship "New Hampshire."

SURGEON M. C. DRENNAN.—Detached from Receiving-Ship "New Hampshire," and granted one year's leave.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDED NOVEMBER 6, 1886.

AMES, R. P. M., PASSED ASSISTANT-SURGEON.—Relieved from duty at Marine Hospital, New York, to assume charge of Marine Hospital, Vineyard Haven, Massachusetts, November 1, 1886.

URQUHART, F. M., PASSED ASSISTANT-SURGEON.—To proceed to Norfolk, Virginia, for duty, November 4, 1886.

YEMANS, H. W., PASSED ASSISTANT-SURGEON.—Relieved from duty at Marine Hospital, San Francisco, California, to assume charge of the service at Galveston, Texas, November 1, 1886.

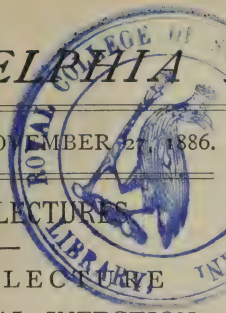
WASDIN, EUGENE, PASSED ASSISTANT-SURGEON.—When relieved, to proceed to New York for duty at Marine Hospital, November 1, 1886.

WILLIAMS, L. L., ASSISTANT-SURGEON.—Relieved from duty at Wilmington, North Carolina, to proceed to Pittsburg, Pennsylvania, for temporary duty, November 5, 1886.

PERRY, T. B., ASSISTANT-SURGEON.—Relieved from duty at Marine Hospital, St. Louis, Missouri, to proceed to San Francisco, California, for duty at Marine Hospital, November 1, 1886.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 27, 1886.



ORIGINAL LECTURES.

CLINICAL LECTURE

ON GONORRHŒAL INFECTION.

Delivered at the Hôpital de la Pitié, Paris,

BY PROFESSOR JACCOUD,

Paris Faculty of Medicine.

(Translated for the MEDICAL TIMES from advance sheets.)

GENTLEMEN,—We will study to-day the patient who lies in No. 37 bed of our "Jenner" ward. He is 37 years of age, a clerk by occupation, and came in on the 12th instant. His history may seem to you to be all dates; but they permit us to come to conclusions of real interest, as I shall show you.

This man was in his usual good health when, in 1879, for the first time he acquired gonorrhœa, which lasted for a month, and which was cured without complications. In 1882 he had a second attack, which was much more severe both as to symptoms and duration: it lasted from January until May. At the beginning of April of that year, about three months after the infection, he had considerable swelling of the left knee, with violent pains; shortly afterwards this passed up to the hip and also down to the heel of the same side; but the knee was the part most affected. The joint was immobilized, and vesication was employed, it seems; but it ended by his being confined to bed for six months, and for a further period of six months he was compelled to use crutches in walking about. Then came a period of walking with a cane; and finally, about the middle of 1883, he could walk without assistance. In January, 1884, he says he got another gonorrhœa, which was also long and tedious, and in a month afterwards the left leg was affected just as before; but he was able to go and take the mineral-water cure at Bourbon-Lancy (a hot spring of soda and iron water), where he was cured in a short time. He remained well up to July, 1885, when he got his fourth attack of gonorrhœa, and in July a new arthropathy occurred, this time of the right knee, followed in a few days by pain and great swelling in the right wrist, from which it went to the great toes of both feet, and afterwards to the heels, and then to the hip-joint. He was then brought to the hospital.

Upon examination, we find considerable swelling of the right knee, with the patella raised and the synovial sac distended with effusion; but there is no redness, and the pain is not very great. The metatarso-phalangeal articulation of the big toe is very painful and swollen, but the color of the skin is not altered. The little finger of the right side is in the same state, on the level with the same joint, as the toe (that is, at the articulation of the first phalanx with the second); the wrist is also painful, but there is no redness or swelling to be seen at present. As to the other side, strange to say, the left knee, which, as you remember, was the first affected, does not now show any symptoms, except that, on moving it, the articulation makes a crackling sound. His general health is not altered, the heart is intact, and the urine normal; the urethral flow persists, but it is not abundant, and micturition is painless.

We have here, then, the most perfect type of articular complications that gonorrhœa can produce. These blennorrhagic arthropathies have long been called *gonorrhœal rheumatism*, which is certainly a wrong title. If we look at the whole of this man's history, we can readily deduce from it a number of important and positive lessons that I will first of all present to you as propositions.

First. The absence of articular manifestations during an attack of gonorrhœa does not at all imply that there will be immunity from them in case of ulterior gonorrhœas.

Second. On the contrary, the presence of such articular manifestations during a gonorrhœa does imply the repetition of the same in case of further infection.

Third. The chances of articular manifestations increase with the number of attacks of gonorrhœa. This proposition, like the preceding one, is the expression of what has happened to our patient; for the interval between the commencement of his first attack and the appearance of the arthritis was three months. But it was only one month for the second attack, and less for the third: so that the predisposition increases with the repetition of the malady.

Fourth. Gonorrhœal arthritis often attacks only one joint; but it may be found in several, and that from the very first sign of its appearance.

Fifth. The small joints may be affected as well as the large ones.

Sixth. The treatment called "abortive," used in gonorrhœa, is not the cause of the arthropathy, for our patient has never been submitted to this form of treatment.

Seventh. The treatment used in gonorrhœa has no influence over the development of these arthropathies. He was always treated in the same way, and had no attack with his first gonorrhœa, but had with the three others.

These are the interesting conclusions we reach from the study of a single case. Now I should like to look at the history of these cases from a general point of view, and see what is the relation between gonorrhœa and these articular manifestations, and what other complications it is capable of producing. The sole cause of these arthropathies is true gonorrhœa, contagious and specific: the other kinds of urethritis cannot produce them. They are more frequent in men than they are in women (who can have them, however); and they are quite independent of any rheumatic diathesis. These arthritic troubles also have nothing to do with the abundance of the flow, as they will occur quite as often when it is copious as when it is ceasing. Nor do they present any regularity as to the time of their appearance: though they develop frequently between the sixth and fifteenth day, as Fournier has so well observed, they may come on much later, as the history of our patient shows. The truth is that your clients may be exposed to them as long as their gonorrhœas may last. All that I can admit from my observation is that the period from the second up to the fifth week is the one to be dreaded. The old idea that when the running ceases the arthritis shows itself is proved now not to be true, for it is rare that the flow is even diminished in volume in these attacks. Finally, these complications are more common in youth and in adult age than they are in after-life,—this is independent of the fact that gonorrhœa is more frequent in younger men,—for in old age the disposition to arthritis of this nature seems to be diminished, or at least attenuated.

The predilection of these arthropathies seems to be first for the knee; next the tibio-tarsal articulation; then the toes and fingers; and, lastly, the wrist, elbows, and shoulders. It is important to note that the vertebral articulations can also be affected. An English writer* assigns the first rank as to frequency to the elbow-joint; but this conclusion is not justified by the statistics of other observers. In two-thirds of the cases more than one joint is affected.

The clinical forms of the disease are not always the same. There are three principal kinds. In the first it is something like an acute hydrarthrosis, there are no general symptoms, and the local pain is more or less severe. The important point to be observed is that there is a *rapid effusion* into the articulation affected. In the second form, which is the most common, there are symptoms of an acute fluxion of one or more joints, and the pain is intense. The tumefaction is considerable, and it is due not only to the effusion, but also to a swelling of the extremities of the bones and the peri-articular tissues. There may be some superficial redness and local heat, or even a slight fever. While this form presents some analogy with acute articular rheumatism, it is essentially different; for, even when it is multiple, it never presents the general diffusion of rheumatism. It also has not the usual and characteristic mobility of rheumatism, for it fixes itself, and when a new joint is affected the others remain just as they were.

Again, there are none of the profuse sweats of rheumatic arthritis. Fever also is slight. When it does exist, which is rarely, it is of very short duration, and never rises to the thermal points that a rheumatic fever does. The urine also is not charged with uric acid products, as in rheumatism: so that the analogy to this last disease is merely apparent. The third form is constituted solely by pain, without swelling or deformity of the joints.

The *evolution* of these arthropathic affections is a very long one. In light cases they may arrive at resolution in four weeks; but this is the exception. The rule is that it will be months before the patients will recover the use of their limbs. Resolution also is not the only termination, for

* Davies Colley on "Acute Gonorrhœal Rheumatism." Guy's Hospital Reports, 1883.

Bradford twice observed anchylosis of the vertebral column.*

White swellings and endocarditis are further complications. The possibility of endocarditis was for a long time denied, but it is now perfectly well established. Indeed, it may occur directly from the gonorrhœa itself, when arthritis is not present, as Baudin proved in 1879; but it is of course more frequent in the articular disorder. It is, as a rule, light; but it can take on the character of infectious endocarditis.

The problem of the *pathogeny* of articular accidents in gonorrhœa has given rise to many theories; but they can mostly remain now among the historic souvenirs of the past. The only one that has obtained any credit is Laségue's idea that a purulent infection can act by reabsorption of the pus. Haslund in 1881, and Holst afterwards, published observations showing that a purulent infection from gonorrhœa can give rise to a general pyæmic state; and in this, gentlemen, lies the truth. Gonorrhœa, a local affection, can engender, by *reabsorption of urethral products*, an affection at a distance, such as the articular disease we are talking about. This interpretation cannot be contested to-day, for other proofs than the evolution of secondary accidents in the joints are now in our hands.

In 1879 Neisser discovered the special microbe of gonorrhœa, the gonococcus. These organisms color well with methyl-violet; they are large, round, rarely alone, mostly united in twos, giving the appearance of the organisms in the form of an 8 (the diplococcus). They are constant in gonorrhœa in women, as well as in men. Neisser found them even in quite old gleets, and also in gonorrhœal ophthalmia; they cannot be found in the other discharges of the urethra. This microbe is found in the interior of pus-globules as well as on their surface (contrary to what Neisser thought), and they also invade the epithelial cells, as Bouchard, Cornil, and others have shown. The drawings on the wall will show you the gonococcus as taken from our patient by M. Berlioz.

The specific action of the gonococcus, indirectly established by its absence in other liquids than the gonorrhœal pus, has been directly shown by Bockhardt and Welander. This last observer introduced into the urethra vaginal liquids with various forms of micro-organisms, but without the gonococcus, and he obtained negative results until he introduced them, when he produced this special microbe in all his cases. Its *migration* is also as well established, for Schedler † showed the presence of this form of microbe in the vegetations of the endocardium. Later, in 1882, Martin ‡ found them in purulent matters of blennorrhagic origin. The following year Petrone § saw them in the liquid taken from joints that were swollen. Again, Bockhardt, in 1882, introduced the fourth generation of a culture of this microbe into the healthy urethra of a man, with the result of a profuse production of the gonococcus.

We can conclude, then, that gonorrhœa is a local infection that is capable of generalization; hence, that it presents two periods: 1, local infection; 2, diffuse infection, whose effects may be seen in the eye, in the articulations, in the heart, and in the nerves, and particularly the sciatic nerve.

In regard to treatment, these precise notions of the nature of this malady have not had the influence on its therapeutics that might have been supposed. It would seem at first sight that the "abortive" treatment would be justified in all cases; but this is not so, for when one sees at least a drop of pus at the meatus, the lymphatics are *already full of the gonococcus*, which cannot be reached. Again, certain agents which were thought to have a destructive action on these microbes have been found by experiment not to kill them. The solutions of nitrate of silver, boric acid, iodoform, eucalyptus, and even corrosive sublimate are not found efficacious. Eklund found that a ten-per-cent. solution of the sublimate failed to destroy the gonococcus, which did not lose its power of movement for several hours.¶

The only antiparasitic agents the utility of which has been established are carbo-

* Bradford: "Anchylosis of the Spine following Rheumatism in Three Cases, Two of them being of Gonorrhœal Origin." *Annals of Anatomy and Surgery*, Brooklyn, New York, 1883.

† Schedler: "Zur Casuistik der Herzaffectionen nach Tripper." Berlin, 1880.

‡ Martin: "Étude sur les Métastases suppuratives d'Origine blennorrhagique," in *Revue médicale de la Suisse romande*, 1882.

§ Petrone: "Sulla Natura parasitaria dell' Artrite blennorragica." *Rivista clinica di Bologna*, 1883.

¶ Eklund: "Note sur les Microbes de la Blennorhagie." *Ann. de Dermat. et de Syphilis*, 1882.

lized water and chloral,—injections of one part to six hundred for the carbolic acid, and two to three hundred for the chloral; but all these measures need an internal treatment added as well; and this medication remains to-day what it has always been,—that is, copaiba and cubebs.

ORIGINAL COMMUNICATIONS.

REPORT ON RECENT PROGRESS IN GYNÆCOLOGY AND OBSTETRICS.

BY W. H. H. GITHENS, M.D.

PREVENTION OF PUERPERAL PYREXIA BY ANTISEPTIC VAGINAL DOUCHES.

A VALUABLE study of antiseptics in private obstetric practice, by Henry D. Fry, M.D., of Washington, D.C., appears in the April *American Journal of Obstetrics*. The measure of effect is by four thermometric observations each day. He does not use uterine injections, and resorts to one vaginal injection only, immediately after labor, unless the lochia become offensive. He is careful to cleanse the accoucheur's hands antiseptically. A rise of temperature at any time after labor he considers pathological, and "milk fever" a mild form of septicæmia.

ASPHYXIA OF THE NEW-BORN.

In the same journal, Dr. Geo. H. Noble, of Atlanta, Georgia, shows that asphyxia neonatorum, in some cases at least, depends upon anæmia of the brain, and can be relieved by holding the child up by the feet, the head hanging down.

TUMORS COMPLICATING PREGNANCY.

In the same journal is a report by M. Hofmeier, M.D., on Cæsarean section when pregnancy is complicated by tumors of the parturient canal. The prognosis depended largely on whether the patients came under treatment during pregnancy or not until during labor. In twenty-eight such cases during *pregnancy*, all the mothers and fifteen children were saved. In twenty-five cases of *labor* so complicated, fifteen mothers and twelve children died. In the twenty-eight cases treated during pregnancy, section was performed seven times. In one instance a uterine myoma was removed at the fifth month, pregnancy continuing to term with delivery of a living child.

CANCER OF THE OVARY.

E. Cohn, assistant at the clinic of Prof. Schroeder, has collated one hundred cases of malignant tumors among six hundred ovariotomies performed in nine years. He includes papillary cysts on account of their tendency to carcinomatous degeneration and frequency of return. In this his experience differs from that of Dr. Goodell, who has found them benign. Of these one hundred malignant cases, fourteen operations could not be completed, nineteen patients remained well at the end of one year, and three of these died subsequently of relapses.

Martin had observed only twelve malignant cases among one hundred and ninety-one ovariotomies. He ascribes this low proportion to his habit of removing ovarian tumors when very small.

VAGINAL HYSTERECTOMY FOR CANCER.

Of eighty total extirpations of the uterus through the vagina by Martin, only seven had died. Based on these statistics, Duevelius draws the conclusion that vaginal hysterectomy is the less dangerous operation. He gives an analysis of one hundred and thirty-eight cases of partial and total extirpation of the uterus for cervical carcinoma. In the first place, he divides carcinoma into three varieties: 1. *Epithelioma of the cervix*, with cauliflower excrescences and profuse secretion and hemorrhages. This form extends early to the vagina, but comparatively late to the uterus; hence remains local for a very long time. To this form partial extirpation is pre-eminently adapted. 2. *Adenoma of the cervical mucosa*, which tends less to new formation and more to ulceration; easily spreads to the body of the uterus along the mucous membrane, and leaves the vaginal cervix long intact. This form is slow in giving rise to symptoms. 3. Begins as a circumscribed cancerous infiltration of the tissues of the cervix, which is irregularly tumefied; and finally it ulcerates through towards the outside or inside of the cervix.

The latter two forms, as a rule, can be operated on with any prospect of permanent success only by the total extirpation, as they readily spread over the entire uterus and their limits cannot be at once determined.

Of the cases analyzed, twenty died; ten complete and ten partial. Of those treated by total extirpation (twenty-nine), one-half had relapses within a year after operation. After two years, one-fourth still remained well,—such result being a full justification of the operation as a means of prolonging life. Of those treated by partial extirpation (eighty-eight), forty-five remained well at the end of a year, and observation for five years did not greatly modify this proportion.

[A successful case of complete extirpation was reported by Dr. Wm. Goodell to the Obstetrical Society of Philadelphia, April 15, 1886.]

LAWSON TAIT ON OVULATION AND OÖPHORECTOMY.

In a lecture delivered by Mr. Lawson Tait in the University of Edinburgh, December 18, 1885, he stated as a well-known fact that, while menstruation occurs only at definite and regular times, ovulation may take place at any period, and it certainly is by no means so frequent as menstruation.

He gives as a frequent cause of salpingitis in young girls between the ages of sixteen and twenty, who are pure virgins, a chill after a dance, or sitting on damp grass after playing tennis.

He answers the objection urged against the removal of the ovaries as unsexing the patient by stating that the ovaries are generally small and are bound down by adhesions. The Fallopian tubes are found adhering to the pelvis and are frequently occluded. The patient is thus completely sterilized by the disease itself, and this fact removes the objection that surgical interference prevents any further impregnation; besides, the operation relieves the great pain and suffering. The dyspareunia is hereby removed, and thus operative procedure is the only possible way of resexing the patient.

He thinks catarrhal salpingitis a prominent agent in the causation of tubal pregnancy,—"spermatozoa going up the tube because they have no ciliæ to fight against."

Dr. Howard A. Kelly, in the Transactions of the Obstetrical Society for April 15, 1886, demonstrates by description and illustration the changes which take place in the relations of the tubes and ovaries as a consequence of chronic salpingitis and the extension of the inflammation to surrounding tissues.

THE REMOVAL OF TUMORS OF THE ABDOMINAL WALL, WITH THEIR PERITONEAL COVERING.

Sänger (*Archiv f. Gynäk.*, xxiv. 1), in a recent article, treats of the removal of tumors of the abdominal wall when the peritoneal covering is so closely adherent that it can be preserved only by such a difficult dissection as would leave a large thin sheet of peritoneum without good vascular connections. He removes the tumor, in one case which he reports, and brings the margins of the incision—muscle and skin—togther by sutures, and leaves the internal surface without any attempt to bring the peritoneum together. Sänger reports experiments upon animals in which he found that healing takes place and endothelium is formed as is epidermis after the destruction of skin.

INFANTILE JAUNDICE.

H. Quincke (*Archiv für Experimentelle Pathologie und Pharmakologie*, xix. 1, 2) maintains that the common form of infantile jaundice is due to the continued patency of the ductus venosus. During fœtal life the blood of the portal vein contains no bile-pigment, as no digestion takes place and but little bile enters the intestine. After birth, bile is poured into the intestine in large quantities, and a portion is absorbed by the portal system of veins and conveyed to the liver, where it is separated from the portal blood. Should there, however, be a delay in the closure of the ductus venosus, a portion of the portal blood containing bile enters the general circulation through the open duct, and gives rise to a more or less intense jaundice, which disappears on the contraction of the duct.—*Med. Times and Gazette.*

ATTITUDE OF THE PARTURIENT WOMAN.

In the *American Journal of Obstetrics*, June, 1886, is an article by H. B. Hemenway, M.D., strongly recommending a sitting position during labor. Among others, he gives the following reasons. Gravity, bringing the vertex more firmly on the os, increases the force of the uterine contractions from reflex influence. The upright position favors the formation of a large "bag of waters" in advance of the fœtal head, thus facilitating the dilatation of the os uteri and the soft parts, and preventing friction between the fœtus and the partu-

rient canal. The position of the woman should be so arranged as to increase the lumbar curve, thus throwing the fundus of the uterus forward, that the contractions of the abdominal muscles may be thoroughly utilized. The article is ably written and is well illustrated.

RETROVERSION AND FLEXION OF THE UTERUS.

At the November meeting of the Obstetrical Society of Philadelphia, Dr. Howard A. Kelly read a paper upon a new method of curing "vicious" retroversion and flexion of the uterus that could not be relieved by pessary, tampon, intra-uterine medication, or any of the ordinary methods of treating that trouble. The plan was to secure the cornua of the uterus by means of sutures to the abdominal wall, at least two inches above the pubes, to allow for distention of the bladder. He had adopted the method in one case in which he had previously removed the appendages for ovarian disease. The result was very satisfactory. Communications concerning somewhat similar operations from Keith, Tait, and Sänger were read. The paper will appear entire in the *American Journal of the Medical Sciences*. The name suggested for this operation is *hysterorrhaphy*.

OBSERVATIONS ON SOUTHERN CALIFORNIA AS A RESORT FOR PULMONARY INVALIDS.

Read at Binghamton, New York, before the New York State Medical Association, June 17, 1886,

BY THERON A. WALES, M.D.

THE search for the Fountain of Youth was but a primitive expression of desire to renew the failing functions of these mortal bodies by some mysterious, because far-away, source of recuperation. Science cut down that hope; but it has sprung afresh in every age, growing upon a perhaps more rational but hardly more substantial basis.

One of these articles of later belief, to which science has given at least quasi approval, has been the assertion that all pulmonary invalids could and would be restored if the sufferer should be placed in the proper climate as regards purity, moisture, elevation, and temperature; and of late years much time, thought, observation, and critical examination has been given to the demonstration. To a body of trained medical gentlemen I need not stop to explain how far this is from being the whole truth; but I observe merely that it seems popular in proportion to its incompleteness.

At one time or another, various parts of our union of States have been extolled as the point where the sufferer from pulmonary difficulties would find relief and restoration of health, and therefore prolongation of days; and thither the annual army of such sufferers has wended its hopeful way, in too many cases to be returned in narrow coffins to former homes, silent witnesses that even "the finest climate in the world" cannot do everything.

At one time or another, Minnesota, Florida, Colorado, and even Texas, has attained pre-eminence in such matters; not to mention the similar claims of the Adirondacks, the western half of North Carolina, and Eastern Tennessee, as well as some other portions of the Southern States, and the lake regions and pine woods of the State of Maine.

It is not my purpose to discuss in this paper how much climate may or may not do for pulmonary complaints, but to assume that, under proper regulations, climate may be of great advantage, and, therefore, to examine Southern California with that point in view.

It was the fortune of the writer to spend the months of January, February, and March of the present year in the southern half of California, and, as he went purely for observation and adventure, he had no bias to tincture his opinions either for or against the country as a resort for pulmonary sufferers.

The northern limit of observation was about the Bay of San Francisco, the southern at San Diego; while, width-wise, he saw varied and various points from the Sierra Nevada to the Pacific sea-beach. At all points he met and conversed with so-called consumptives, varying from the professional dyspeptic—who always expectorates in his handkerchief and then minutely examines it, and who manages to worm out of you, as soon as he learns you are a physician, an "unofficial" opinion of his case *without cost to himself*, and then triumphantly refutes it by telling you what Dr. Blank said was the matter with him that very morning—to the poor, hopeless, hollow-eyed, hectic sufferer whose ringing cough echoes nightly through the

long corridors of every hotel on the Pacific coast, and who always thinks he must have taken a little cold the day before.

The Southern California coast-line impinges upon the Pacific Ocean at an obtuse angle, of which Point Conception is the apex. All of California north of this point, so far as the coast is concerned, is absolutely harmful to pulmonic sufferers. South of it is the land of blessing, if the disorder of the lungs be one susceptible of improvement from sea-air. North of this point along the coast comes in the morning the damp sea-fog, chilly and depressing; while in the afternoon the fierce acrid northwest wind completes the mischief the morning fog began. It is no climate for irritable lungs, and should be carefully avoided by such sufferers.

Roughly speaking, Californian topography can be divided into the Sierras or mountains, the Mesa or table-lands, and the coast-region or sea-side; but in detail there are to each of these sections accidental surroundings which so modify the climate that in no country in the world can you find such numberless varieties of climatic conditions as in this Golden State. Therefore it is that the invalid seeking health on the Pacific coast has need to know where and why he should seek some particular location.

In general terms, again, the high altitudes are advantageous to those whose lungs are small, weak, or partially collapsed; the Mesa and foot-hills, to those of a catarrhal tendency; while the coast furnishes, with its increased moisture and saline quality, a soothing, equable air for many whose respiratory surfaces are hot, dry, and irritable. * * *

I am reminded here to speak of a failing, examples of which were never wanting among the seekers for health on the Pacific slope,—a failing of family physicians in regard to those patients whose lungs have exhibited tendencies to disease too obstinate to be successfully overcome. It is unpleasant to have patients die. It is painful to lose those who generally are more than patients, are warm and admiring friends; too often those whom we have welcomed at birth, have guided through the diseases of infancy, and have watched over as they developed into young men and women, only to see them fall victims of that arch-enemy, pulmonary phthisis.

I fear that at times some of us have found it easy to evade the final struggle with the great destroyer by recommending the patient to try a "change of climate," and have added, to accelerate the departure, "that whatever change was made had better be made promptly." And so the poor sufferer, not infrequently a frail girl, is bundled off, it may be to California, because "John had heard that Andrew said that James had written home that Peter's wife's mother, since she went to California, has got strong and well, notwithstanding the fact that the doctor had said her lung-trouble would never be any better." No knowledge, mind you, of the diagnosis or exact condition of Peter's mother-in-law's lungs; no knowledge as to whether the cases are similar; no precise knowledge even of her own lungs, further than that the doctor said her lungs were "somewhat affected," and that she had better try a change of climate; no knowledge of the climate to which she is going; no knowledge of anything except that, whereas she now is failing, she has an expectation that the mighty climate of California is miraculously to restore her to health. And so, some day, travel-stained and weary, with perhaps a single companion, she is landed at a hotel on the Pacific coast, placed in a lonesome, sunless room, with no means of heating, in a climate where to sit in the shade is to take cold invariably, and literally left to herself. That night comes up a furious norther,—for even on the much-lauded Pacific coast come up furious northers,—and the unfortunate invalid wakes in the morning to shiver with cold in the finest climate the world ever saw. With insufficient clothing, because she was going to a warm country; with no fire; timid and unaccustomed to travel; unable to get anything without feeing the waiters; homesick and forlorn, what wonder she soon takes to her bed, sick and sorrowful? And even then, when she asks for a physician, ten to one but that the employee who is sent to call one is in collusion with some humbug, and for a percentage places her in the hands of a quack. You can imagine the rest; I do not need to dwell. Some day her lifeless form is returned to sleep in the quiet churchyard of her native village. A victim of what? Of the California climate? By no means. I implicitly believe that the California climate, suitably selected, can do more than any

other one thing for the relief of pulmonary sufferers.

No, not a victim of the over-praised climate; but a victim first of the neglect or carelessness of the family physician to properly inform her or her friends of the exact physical condition, and to furnish proper instructions as to the surroundings most favorable for an ultimate recovery; whether at a high altitude or a low one; whether in a moist or a dry air; whether near the sea or remote; and many other details which easily occur to you, but which I will not here take time to record; and, most of all, to have sent with her a careful diagnosis of the case, with a history of previous attacks, etc., for the guidance of any honest physician under whose care she may come. A victim also of that too general but fallacious belief of people that there exists somewhere, not a fountain, but a marvellous climate, which will cure universally every sick one who shall come to breathe its health-giving air.

A victim, furthermore, of those conscienceless, rapacious, predatory rascals who fatten upon the credulity of suffering humanity, and who throng in Southern California, and particularly in Los Angeles, as thickly as the gray wolves of the plains upon the heels of a wounded elk. * * * These are but a few of my observations.

Nevertheless, Southern California is the most excellent place yet found for the relief of those sufferers whose trouble is of a pulmonary character; the best unaided agency in the world for the restoration from pulmonary disease, when the situation is properly chosen.

ELMIRA, NEW YORK.

REPORT OF A CASE OF SPLENIC LEUCOCYTHÆMIA.

Read before the New York State Medical Association, Third District Branch, meeting at Binghamton, June, 1886,

BY E. LESTER, M.D.,
Seneca Falls, New York.

THIS disease, as described by His, Gowers, and other writers, is characterized by a permanent increase of the white corpuscles in the blood, the tint of which is, in consequence, paler than in health.

To refresh your memories of the character of the disease I will give you a synopsis of the symptoms as laid down by these writers before I describe my case, which I consider well marked in every respect.

The glandular system is affected, although not so much as in Hodgkin's disease: still, the mesenteric glands become enlarged in most cases. Heredity, sex, age, and conditions of life have an influence in causing this disorder. Malarial influences stand at the head in producing this disease. The first symptoms are splenic pains and abdominal enlargement. These are followed by weakness, languor, pallor, digestive disturbance, dyspnœa, excessive and unnatural appetite, vomiting, and diarrhœa. Hemorrhage from the nose, as the disease progresses, is almost a constant symptom. Noises in the head, deafness, pain in the back of the neck, priapism without passion, are among the most prominent symptoms.

The average duration of life is about two years.

The case I have to report of this disease was a young man, aged 18 years, American by birth, of healthy parents; born in the country, and living on a farm in a non-malarial section till he was fourteen years old, when his parents came to Seneca Falls with him, their residence being on the bank of Seneca River. At the age of fifteen he had malarial fever, which assumed the form of ague, and when he was sixteen, in the summer of 1884, he had typho-malarial fever, and was confined to his bed for some weeks. He resumed work after that sickness till the spring of 1885, when he was taken sick with pain in the back of the neck and general weakness. I was called in council by his attending physician, and found that the most peculiar symptom in his case was priapism.

His penis was erect and full, the corpus cavernosum bulged, the corpus spongiosum full and firm, so that the organ could not be bent. We looked for a cause; there was no tenderness along the spine, only pain at the base of the brain, and that only at times. Warm baths were used so that he could empty his bladder; the doctor said he could not introduce a catheter, but after a warm bath he could evacuate his bladder by getting on his hands and knees. His pulse was slow; his skin dark and leaden-colored; spirits low, with fear of death. The doctor told me he tried everything to relieve him, but the priapism did not leave him till the end of ten

weeks. I saw him only once, at that time. In September, 1875, they brought him to me. His abdomen was then greatly distended; his color pale and dusky; his eyes dull; so deaf you could hardly make him hear; his gait was unsteady; breath short and difficult; the arteries above the clavicle beat so you could see them across the room; said he had frequent nose-bleed; an enormous appetite; slept a great deal.

I then took the case. I gave him mercurial cathartics and followed with quinine in pretty large doses, and he seemed to improve for a few weeks; but all of his bad symptoms returned; his abdomen increased so much that I introduced an aspirator-needle, but not a drop of fluid did I get. His feet and legs swelled; he had iritis in his left eye; his testicle swelled and was very painful; his nose-bleed came on every day, with the pains at the base of the brain; he lost his appetite; could not sleep; was very restless; nose-bleed so severe I had to keep the passage plugged all the time till death came, February 17, 1886, from exhaustion.

Post-mortem held February 18; made an incision in the median line. The whole abdominal cavity seemed filled with the spleen and liver; there was no fluid, no adhesions; the stomach was distended; the liver and spleen had pressed the diaphragm up to the fourth rib; the heart was pressed to the right and nearly horizontal. Removed the liver and spleen. The liver weighed fourteen and a half pounds, and the spleen seven and three-quarter pounds. The left kidney was nearly seven inches long and three in width; the other was a little above the normal size.

The points of interest in this case are the long duration of the priapism (ten weeks), the great weight of the spleen (seven and three-quarter pounds), and the size of the liver (fourteen and a half pounds).

OXALURIA.

Read before the New York State Medical Association, Third District Branch, at the Meeting held at Binghamton, New York,

BY A. R. NICHOLSON, M.D.,
Madison, New York.

WITHOUT attempting in this paper any originality of thought, it is my purpose merely to bring to your notice a group of patients that to me in a brief practice has been quite a large one, and after an understanding of the case and a correct diagnosis, with appropriate remedies, I have found very amenable to treatment.

The sex of those that have come under my observation has been principally the male, although I am not prepared to state that man as the rule is more liable to be affected than woman.

These patients are not ordinarily termed sick,—that is, are not confined to their room or house,—and are able to be about; yet they are incapacitated from attending well to their vocations. They are not even in possession of good enough health to enjoy life, but, on the contrary, complain of a disturbance of the nervous system; feeling irritable, dejected, and melancholy, with a loss of ambition, and disinclination to attend to any slight duty which may devolve upon them. They are unreasonable in their desires and demands, finding, as they say, "there does not anything go right."

Their business, if they have any, becomes dull and irksome; there is a desire to absent themselves from it, and to avoid society, preferring to remain alone and brood over their bad feelings.

In two cases the patients confessed that they had felt a desire to rid themselves of their bad feelings by committing suicide, but lacked energy or courage to do so.

The physical sufferings are usually those of severe headache. The patient imagines that his brain is diseased, or at another time he may have a feeling that his heart is affected, and wish that organ examined. But more frequently attention is called to pain through the loins and abdomen, with an occasional pain in the thighs. I have also noticed a frequent desire to micturate, and a sense of heat accompanying the passage of the urine. The stomach is usually deranged, and there is a consequent loss of appetite, with an accumulation of gases, which disturbs the patient by frequent eructations, and a degree of emaciation results.

In alluding to this class of cases I refer to the condition known as oxaluria. Upon an examination of the urine of such a person, a few or many octahedral crystals of the oxalate of lime will generally be detected, which can be found readily with the aid of a microscope with a magnifying capacity of four hundred diameters and of good defining power. The urine

usually is devoid of any other abnormality except an excess of earthy phosphates.

Such cases, although not presenting a very sick appearance, demand the serious attention of the physician. In order to benefit the patient, there needs to be found out the cause leading to this condition, which is frequently indigestion: the food is but partially fitted for absorption, and the processes of oxidation are retarded. In these cases the cause of the indigestion must be sought and treated. It may be that the patient's food is not of the right kind; it may contain so much starchy material that all of it cannot be completely oxidized, or the person may be breathing impure air, and the blood may not contain sufficient oxygen to oxidize a proper amount of food. The conditions under which the patient lives must be investigated. Too close application to business, with insufficient out-door exercise, or too small a quantity of water that is free from lime, may aid in causing it.

For the purpose of assisting in the oxidation of the food and stimulating the action of the liver on the food, nitro-muriatic acid, in five-drop doses well diluted and taken through a glass tube, after meals, serves the best of any medicinal remedy that I have used. This forms a pleasant drink, that most patients take with a relish.

A very important part of the treatment consists in relieving the patients of anxiety attending their condition by directing the attention to other objects, out-door sports, or active employment in the open air, and by freeing their minds of business cares for a period, until the oxalates can no longer be detected in the urine.

By following this mode of treatment, I have been enabled to relieve my cases completely of their physical sufferings, and those due to imagination readily vanish.

TRANSLATIONS.

Ignipuncture as a Method of Surgical Treatment of Chronic Cervical Adenitis.—Dr. Dumenil, Professor of Surgery at Rouen, reports nine cases of enlarged glands of the neck among soldiers treated by the introduction of a platinum wire into the gland and the practice of galvano-cautery. In some cases there was a discharge of caseous matter and free suppuration for a few days; in others this did not occur. In both groups of cases the glands rapidly underwent resolution, and only a trifling scar was left by the operation.

Although the most radical and rapid method of removing these glands would be by the surgeon's knife, which may now be done with antiseptic appliances even by the most timid, there still are cases in which deep cauterization has the advantage: for instance, where the patient recoils from ablation, or where the tumors are multiple. In case of doubt as to the malignant character of a tumor in these regions, probably prompt extirpation would be the most advisable plan of treatment.

At the present day this affection is no longer considered as a strumous engorgement or scrofulous adenitis, but as a local tuberculosis. The lymphatic glands of the neck receive the lymphatic vessels coming from the buccal, nasal, and pharyngeal cavities, and are specially liable to receive infectious particles which are carried by the air. The numerous diverticula which are met with in these regions, and the frequent lesions particularly of the gums, constitute ports of entry into which the infectious elements may enter with the greatest facility. The marked frequency among soldiers is due partly to bad hygiene, and particularly to neglect of the bucco-pharyngeal cavity.

As the affection is found very frequently among quite vigorous subjects whose general health is good, and in whom no hereditary predisposition exists, it appears evident that the local conditions are quite sufficient to explain the production of tuberculous adenitis.

In making the cauterization, a filiform galvano-cautery surmounted by a button was first employed, but afterwards was replaced by a simple platinum point, which was made to penetrate to the centre or traverse the tumor in one or more directions. Cold compresses were then applied. Anæsthetics were not needed. In all the cases except one the ignipuncture gave satisfactory results. The exceptional case passed from observation without having shown any diminution in the glands, but his general health remained good.

In almost all the cases the glands were in the way of becoming caseous, and it is

in this condition that good results have been the most rapid and the most striking. It would be interesting to know whether the cure was radical in these cases, or whether they afterwards suffered with visceral lesions due to infection. This question, which is of great importance, remains for subsequent investigation.—*La Normandie Médicale.*

Antifebrin.—Drs. A. Cahn and P. Hepp, assistants in Kussmaul's clinic at Strasburg, having made a series of observations of the action of the neutral substance acetanilide, or phenylacetamide, declare that it possesses remarkable power in controlling abnormally high temperature. This property is so characteristic that they propose its use in medicine under the title of antifebrin. It is a white, crystalline, odorless powder, slightly pungent to the taste, freely soluble in alcoholic liquids, and soluble in hot water, but almost insoluble in cold. It does not combine with either acids or bases, and, although a derivative of aniline, is itself non-poisonous in comparatively large doses, either to the lower animals or man. In cases of typhoid fever, erysipelas, acute rheumatism, phthisis, leucæmia, pyæmia, and pneumonia, to which this agent was given in doses of from four to fifteen grains (not more than thirty grains daily), decided effects were obtained upon the course of the fever. With the lowering of the temperature there was a decrease in the frequency of the pulse, but an increase in volume. Some unusual thirst or diuresis was observed for a few hours after the remedy was administered, but there was no chill and no vomiting.

The drug is efficient in about one-third of the dose of antipyrine. Its other advantages are that it perfectly agrees with the stomach, and that the diaphoresis is moderate in quantity. Special caution is enjoined to employ only the pure drug. It is a matter not only of theoretical interest, but also of practical import, that while others of the recent antipyretics are either phenols (such as carbolic acid, hydroquinone, resorcin, and salicylic acid) or bases of the quinoline group (including quinoline, kairin, antipyrine, and thallin), in acetanilide we have a body of quite different chemical constitution which exerts a similar effect.—*Centralblatt für Klinische Medicin.*

The Disinfection of the Hands.—After making a post-mortem examination or attending a case of puerperal fever, it becomes a question of great importance how to disinfect the hands thoroughly before attending another parturient woman. From experiment with gelatin cultures, it was found that if the hands are brushed with a solution of carbolic acid (three to five per cent.) or one of thymol (six per thousand), or in corrosive sublimate (one to a thousand), or if washed five minutes with soap and warm water, then brushed for two minutes with dilute chlorine solution, they are thereby perfectly disinfected.—*Revue Int. des Sciences Médicales.*

The Obstetric Bandage.—Professor Czerny, of Heidelberg, attributes the pendulous abdomen of some women who have borne children to the want of proper bandaging after labor. Observation has shown that the shape of the abdomen and the tone of the abdominal muscles are decidedly improved by the use of the obstetric binder, not only during the first week, but also for several weeks after confinement.—*Centralblatt für Gynäkologie*, No. 3, 1886.

Anisic Acid, a New Antiseptic.—By oxidation of oil of anise, anisic acid is obtained, which is isomeric with methyl-salicylic acid and has germicidal properties. The anisate of soda does not disagree with the stomach, reduces temperature, and increases intra-vascular pressure. It may be used in surgery as an antiseptic, or in the treatment of acute articular rheumatism as a succedaneum of salicylic acid.—*Revue de Thérapeutique Méd.-Chir.*, No. 15.

Chloasma.—Aguilar recommends the following:

Goa powder, 3 parts;
Acetic acid, 2 parts;
Benzoinated lard, 35 parts. M.

Three applications to be made daily.—*Revue de Thérapeutique Méd.-Chir.*, No. 15.

Painful Uterine Contractions in Parietal Myoma.—P. Ménière has found the following very efficient:

℞ Acid. citric., 0.25;
Narceinæ, 1;
Ext. viburni prunifolii, 2;
Syrupi, 250. M.

Dose, a dessertspoonful every two hours until the pains are relieved.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 27, 1886.

EDITORIAL.

CLINICAL ELECTROLYSIS.

THE solvent action of the electrical current upon both normal and abnormal tissues of the human body has come to be an interesting and important therapeutic study. That the current has a decided chemico-physical effect when used by galvano-puncture in an aneurismal sac, or within a nævus, has long been undisputed, but the claim that it exerts a solvent action upon ordinary inflammatory deposits has not been so generally recognized. This slow recognition is due, we think, to two causes. First, the advocates of the method have been carried away by their enthusiasm rather than led by patient observation, and their reports are often lacking in the fulness of detail, patience in trial, and candor of statement which are necessary to insure their acceptance. Secondly, the sceptics who have essayed to test the method have been still more deficient; for, in addition to the biassed state of their minds, they have often been absurdly lacking in expert knowledge and skill in the use of electricity, without which success is impossible.

At a recent meeting of the Philadelphia County Medical Society a paper was read by Dr. J. Hendrie Lloyd embodying the results of a very careful and prolonged trial of electricity upon inflammatory deposits in the female pelvis. The chief points brought out by this paper may be briefly summed up as follows:

The term electrolysis, as applied to this process, is probably in part a misnomer. While true electrolysis no doubt contributes somewhat to the result, it is certain that the resistance encountered in the mucous membrane, and the consequent diffusion of the current, do not allow of as great a concentration of electric force upon the diseased tissues as would be necessary to secure perfect electrolysis. This objection is, of course, removed in those cases in which it is possible to use a needle as one electrode and to puncture the tissues. This, we believe, has been done by Dr. Baker in one case of cellulitic deposit, but in the great majority of cases of pelvic cellulitis and stricture of the male urethra it would be neither practicable nor safe. The writer of the paper believed that electrical osmosis and the secondary action (chemical) of electrolysis, as well as counter-irritation, probably, all contributed to secure the result.

The dose of electricity ought in every case to be measured by a reliable galvanometer. This is necessary, first, in order to establish accurate data for subsequent deductions and future trials; in other words, to make the process strictly scientific. Again, the safety of the patient and the convenience of the operator demand this precision. This was emphatically shown in one of Dr. Lloyd's cases, where, in spite of careful observation, damage was done to the vaginal tissues. This will be impossible when the average safe dose is known and recorded; and these observations do much to indicate this average. Without measurement, and with the electrode out of sight, the operator cannot know whether he may not be doing too much on the one hand, or not enough on the other. The essential thing is to obtain the proper *quantity* of electricity. The particular *form* of galvanic cell from which it is obtained is of secondary importance. Every cell will give a quantity of electricity in exact relation to its volt force and the external resistance. If they are weak cells, more of them will be needed. The problem is strictly accord-

ing to Ohm's law, and the record is kept by a galvanometer.

The results obtained in these cases were encouraging. The evidence of absorption of inflammatory deposits was well supported, while the relief to many secondary symptoms was great. The details are as exact and complete as they can be made with our present knowledge. The paper was preliminary to a report which the writer intends to make upon the practice of electrolysis upon various diseased conditions. These cases were selected, first of all, because of the comparative ease of observation.

SOME RESULTS OF PASTEUR'S TREATMENT FOR HYDROPHOBIA.

ON October 31, 1886, one year and five days after M. Pasteur first advocated the practice of inoculation as a cure for hydrophobia, two thousand four hundred and ninety persons who were bitten by animals, rabid or supposed to be rabid, had received treatment in Paris according to his new method. The applicants from France and Algiers alone numbered seventeen hundred. In ten of these the treatment was unsuccessful in preventing the fatal result; in two cases death was directly attributable to delay in beginning the inoculations. Excluding these two, therefore, the deaths among the French subjects treated were one to one hundred and seventy: less than six-tenths of one per cent.

M. Pasteur thinks it probable that but few of the persons bitten by mad dogs in France during the past year had failed to apply at the laboratory in the Rue d'Ulm for his treatment; and yet of this comparatively small number who were not treated seventeen died with hydrophobia.

In the preceding five years sixty persons died with hydrophobia in the Paris hospitals: an average of twelve per year. During the past year there were in these hospitals of Paris only two deaths recorded as due to this disease, and in neither of these had inoculation been practised.

M. Pasteur has recently modified his method somewhat, so that now, in cases of wounds of the face or severe bites generally, the inoculations are repeated at more frequent intervals. He claims that immunity is thus attained earlier.

Assuming these statements—made before the French Academy of Medicine on November 2—to be true, it would seem that the great French chemist and man of science has finally established his method upon a secure foundation. Sciolists who contest M. Pasteur's method upon merely theoretical grounds would do well to study the figures above given. If they rest upon errors of observation, they should be exposed. If his statistics are correct, doubt seems no longer permissible. At all events, M. Pasteur has thrown the gauntlet into the arena in claiming that his method has received the endorsement of clinical experience, and that his hypothesis as to the power of anti-rabic inoculation to check the development of the dread disease—even when performed subsequently to the infliction of the injury—has been firmly established upon an experimental basis. Accepting the facts to be just as they are stated, the demonstration seems to be complete of the propriety of resorting to this treatment in cases unquestionably bitten by an animal known to have hydrophobia. As to the *modus operandi* of the remedial method, it remains an unsolved problem, with regard to which we confess ourselves very much in the dark.

THE RESULTS OF DR. SHAKESPEARE'S RECENT INVESTIGATIONS UPON CHOLERA.

ON the 18th instant a special meeting of the College of Physicians of this city was held in order to hear a lecture upon Cholera by Dr. E. O. Shakespeare,

who has recently returned from a tour of investigation by special appointment of the United States government. During his stay abroad he made personal visits to those whose labors have rendered them distinguished in this field; not only in several countries in Europe, but also in India. In commencing his review of his work, at the College, Dr. Shakespeare gave brief accounts of recent epidemics of cholera in the different countries where it had been studied, and illustrated his remarks by diagrams of morbidity and mortality. The connection between the outbreaks of the disease and infected water-supply was clearly shown in nearly every instance.

Although the proof of the statement that the comma-bacillus is the active and efficient cause of cholera Asiatica was not entirely satisfactory to his mind, the lecturer felt no hesitation in declaring that Koch had conferred an inestimable boon upon the race by placing in the hands of every practitioner an infallible means of diagnosis of this disease from cholera morbus and other diseases resembling cholera. He expressed the opinion that a health-officer or physician who, in the presence of suspected cases and before the prevalence of the malady as an epidemic, should fail to employ this means of deciding whether or not the disease is genuine cholera, would be guilty of criminal negligence.

After a personal visit to Ferran, in Valencia, and an examination of his methods of investigation, he was prepared to endorse the verdict of the French Commission with regard to the condition of his laboratory, but as to Ferran himself he arrived at a different conclusion. He was impressed by his modest bearing, and believed him a cultured gentleman, possessed of no mean skill as a bacteriologist. In his laboratory Dr. Shakespeare found as pure cultures of the comma-bacillus, and as handsomely mounted and stained specimens, as could be found anywhere in Europe. A few of these slides, made in his presence, were exhibited after the lecture was finished.

With regard to the result of Ferran's inoculations, Dr. Shakespeare demonstrated by the official returns made by the government officers, who are not friendly to Ferran, that there was a sudden and marked reduction in the number of cases and in the mortality in several villages after the inoculations were begun,—this measure apparently having about six times the value of ordinary hygienic precautions in checking the epidemic. The facts concerning inoculation, so far as they have been reported officially, seem to indicate the importance of making, in future epidemics, this method the subject of a searching scientific investigation, such as it has not received up to the present time.

A GERMAN MEDICAL SOCIETY IN PHILADELPHIA.

AT a meeting of German-speaking physicians of this city, held recently, it was decided to form a new medical society, the objects of which would be to afford a means of increasing the knowledge of the German language and medical literature on the part of its members, and in general to serve the ends of advancing medical science by holding monthly meetings for the reading of papers, the reporting of cases, and discussing questions of interest which properly would come before such an organization. Ferdinand H. Gross, M.D., of the staff of the German Hospital, was elected temporary chairman, and a meeting for organization will soon be held, at which the charter, constitution, and by-laws will be submitted by a committee appointed for the purpose, which is now engaged in translating the constitution of the Philadelphia County Medical Society into German, with a probability of its adoption as the organic law of the new society. The proposed association has every prospect of a useful career. We heartily wish it success.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE matters of greatest interest here at the present time are those involved in the opening of the medical schools. We have eleven fully-equipped medical schools in London, not including the London School of Medicine for Women, which is also fully equipped. In the provinces there are eight medical schools: four connected directly with universities,—viz., Cambridge, Oxford, Newcastle, and Owens College, Manchester,—and four which have no such direct connection,—viz., Bristol, Birmingham, Leeds, and Sheffield. Of these, the last-named has not in recent years published any returns of the number of students entering, and the schools at Bristol and Birmingham have always been small. Cambridge is by far the largest English school outside London; Owens College stands next; and then, at a considerable distance, follow Newcastle (connected with the Durham University) and Leeds. The Oxford Medical School has only begun serious work as a completely-equipped school this session. Twelve students have joined this term, and I understand that twenty-one students in all are at present dissecting. Considering all the circumstances and the peculiarly strong opposition to the adoption of medical studies which seems to be offered by the *genius loci*, this must be considered encouraging evidence of the tendency among the class who go to Oxford to take up the study of medicine. The physiological laboratories, under the direction of Professor Burdon Sanderson, are now in order, and a new dissecting-room, with accommodation for seventy students, has been taken into use at the beginning of this term.

The number of students entering the medical schools in London this session shows a slight falling off. A considerable improvement was noted last year, but this has not been maintained. In 1884 the number entering was 587; in 1885 it was 647; and in 1886 it is only 623. As several of the schools which suffer most, notably Charing Cross, Westminster, and the London Hospital, have expended large sums of money in rebuilding their laboratories, lecture-theatres, and other buildings, this failure to obtain a larger "entry" is peculiarly disappointing. St. Mary's Hospital is the only school which appears to be winning a new reputation, though it may be noted that both Guy's Hospital and University College seem to be regaining the popularity which for a time they had lost.

The decline in the popularity of London as a medical centre can hardly any longer be disputed, and is causing many searchings of heart. Very various explanations are given for this phenomenon; but the one which finds greatest favor is that which attributes the decrease in the numbers to the absence of any facilities for London students to obtain the title of M.D. The University of London exacts a long curriculum, and unless a student becomes an undergraduate of that university before the commencement of his student-career, its degrees are forever beyond his reach. At present there is practically no alternative. Many London students obtain degrees from Durham University; but to do this they must, for the time at least, cease to be London students. Indeed, nobody any longer denies that this is a hardship, and at least three schemes have been propounded to remedy it. By one it is proposed that the London University should modify its requirements so as to meet the necessities of average students; another owes its existence to the Association for Promoting a Teaching University in London, and practically involves the creation of a new university compounded out of the various teaching colleges "of university rank" at present existing in London; the third is the proposal that the Royal College of Physicians and the Royal College of Surgeons, which, under a temporary arrangement, recently formed a conjoint examining board to grant a double diploma in medicine and surgery, should conjointly obtain a charter empowering them to grant the degree of M.D. It is this last scheme that seems most likely to be realized: it has a persistent and influential advocate in Sir William Jenner, the President of the College of Physicians, and if the conjoint committee which is at present at work can agree on a good working constitution, it is highly probable that the charter will be obtained.

In this connection it is curious to note that Mr. D'Arcy Power has shown, in a recently-published historical work chiefly founded on materials left by the late Mr. Flint South, that such a union between the two colleges existed several centuries ago, but, after lasting about fifty years broke down. Whether Mr. Power's discovery is an argument for or against the present scheme I must leave to others to determine; but, as it stands, it certainly seems to cut both ways.

A serious difficulty has arisen, however, in connection with the Apothecaries' Society, which has the statutory right to grant a license to practise medicine. It has applied to be allowed to join the Colleges of Physicians and Surgeons in the formation of a conjoint board, and has so far been refused. The final decision has not yet been taken; but should it be adverse there would be a risk that the Apothecaries' Society would presently die of inanition. This would not in some quarters be regarded as a misfortune. It has, however, been recently pointed out that the Society is the only body which possesses any effectual powers for the suppression of quackery or any form of unlicensed

practice. A good deal of practice is done by chemists and druggists, who prescribe over the counter and in some cases visit their "patients," by bone-setters, and by herbalists. It is only when the patients die and the necessity for giving a certificate as to the cause of death arises that these gentry are liable to find themselves within the clutches of the law, and, as a rule, they have sufficient address to avoid the scandals and publicity which official inquiries involve.

The wide-spread belief that there is some connection between the tonsils and the testicles, and that excision of the former may induce atrophy of the latter, did not meet with any support during a discussion which arose at the Clinical Society on October 8. Mr. Pearce Gould showed a young man, aged 27, over six feet high, tall and slender, with smooth, hairless face and a boy's voice, in whom the penis was small, the testicles very small, the prostate almost and the seminal vesicles quite imperceptible per rectum; the tonsils were very small. He combated the theory which would have traced in this case a connection between the small testicles and the small tonsils. He said that in Zanzibar all boys had their tonsils removed, and yet the Zanzibarees had not small testicles, and were as fertile as other folk. As the operation of excision of the tonsils had become so common, he thought that, if it had any such influence as was supposed on the testicles, this fact would now be well established. Dr. Felix Semon supported Mr. Gould, as did all the other speakers.

The Royal College of Physicians have received two thousand pounds under the will of the late Gavin Milroy, one of the earliest workers in sanitary science. He was a member of the commission sent out to the Crimea when the mortality among the British soldiers during that most fatal campaign was at its height, and it was to the reforms introduced by this commission that the decrease in the mortality was attributed. Dr. Milroy left the above-mentioned sum for the endowment of a lectureship on public health and sanitation. The arrangements are not yet complete, and in making them the College will have the advantage of considerable experience; the three courses of lectures which have been delivered for so many years have been, on the whole, successful, and the reason has doubtless been that the widest latitude has always been left to the lecturer in the choice of his subject. The Harveian oration, on the other hand, is generally anything but a success, because the "orator" is to a considerable extent tied down. The "orator" of this year, Dr. Pavy, in his "oration" on October 18, ventured to give a slight sketch of the germ-theory of disease, but, probably from want of a thorough acquaintance with it, failed to make his subject interesting; and such failure is but too common.

Dr. Alfred Hill, in his address on taking the chair as President of the Society of Medical Officers of Health, defended the water-carriage system of sewage, which, though in almost universal use in this country, has recently been attacked on various accounts. He said that the sewage of a town with water-closets was but little more offensive than that of a town which had no water-closets, and that with the latter matter was carried instantly and readily by gravitation to its proper destination, which was, of course, the land. The sewage of some of the districts of Birmingham is used for irrigating land, and a considerable sum was realized last year by the sale of stock and produce. Dr. Hill thought that the difficulty of obtaining land suitable for irrigation had been greatly exaggerated, and stated that the amount of land which experience at Birmingham had shown to be sufficient was one acre to every five hundred persons. London is said to be on the eve of a large expenditure to cover the cost of precipitating and deodorizing its sewage, which until the other day was discharged into the Thames in the crude state: even now very little is precipitated. Dr. Hill calculated that, if the sewage of London were utilized on sewage-farms, it would raise vegetables, milk, and meat worth two hundred thousand pounds a year. The necessary works and farms would, however, probably cost an appalling sum, since at least eight thousand acres of arable land, well drained to six feet, would be required.

Professor Hamilton, of Aberdeen, showed at the last meeting of the Pathological Society of London a series of sections of the brain which are probably the most beautiful that have ever been seen in this country. During the series of manipulations to which they are subjected, the sections are stretched so that they are a third to a half larger than natural. He showed sections through the whole, both in the transverse and in the horizontal direction: one made through the corpus callosum had, when viewed in a transparency, almost the distinctness and definition of a diagram. It would be tedious to recount the very elaborate method followed to obtain these beautiful preparations, but the two chief peculiarities about it are that the brain is hardened by being continuously injected (through the vessels) for a week, and that the section, which is cut in a large microtome, is allowed to fall into water, and then caught upon the surface of a glass plate covered with a layer of gelatin; a second layer of gelatin is run over the specimen, and all subsequent manipulations are applied to the section encased in this double layer of gelatin.

The contested elections for the five seats on the General Medical Council continue to excite a great deal of attention, and a whole series of "organizations" and committees, each with its chairman or president, execu-

tive committee, and, as a rule, a treasurer, are at work. There is a great sameness about the addresses, and it is quite impossible to forecast the result.

Mr. Victor Horsley has operated upon another patient with tumor cerebri: he excised a very large tumor, and the patient, who was under the care of Dr. Ferrier, got over the operation well. I hear that in one of his earlier cases the epileptiform fits are beginning to return.

At the meeting of the Ophthalmological Society on October 21, Messrs. Edmunds and Lawford contributed a concluding paper on the mode of production of optic neuritis in head-injuries. Their general conclusion is that when meningitis occurs at the base there will always be optic neuritis, but that when there is no basic meningitis there will be no optic neuritis. DAWSON WILLIAMS.

LONDON, October 23, 1886.

NOTES FROM PARIS SOCIETIES.

THE Influence of Nerves on the Secretion of Lymph.—At a recent meeting of the Academy of Sciences, M. Serge Lewachen stated that by means of an aspirator, which insures a free and constant flow of lymph surrounding the lymphatics of the saphena vein, he can now prove that, if under any nervous influence a certain modification in the circulation of the blood ensues, it always determines a variation in the secretion of lymph. On stimulating the vaso-motor nerves (constrictors and dilators), modification in the quantity of the lymph results. These modifications are identical, whatever nerves are stimulated. M. Lewachen considers these changes to be in direct connection with the circulation in the corresponding limb.

In a second communication read before the same institution, M. Lewachen stated that he had sought to ascertain if similar modifications in the circulatory system, occurring under the influence of the vaso-dilator and vaso-constrictor nerves, determine variations in lymphatic secretion of the same intensity or a different intensity. This investigator made experiments on the tongue. It is known that vaso-constrictor fibres of the hypoglossus nerve and vaso-dilator fibres of the lingual nerve are sent to the tongue. On stimulating either the hypoglossus or the lingual nerve, separate action of each variety of the vaso-motor fibres can be produced. Except the lymphatic vessel under observation, M. Lewachen severed all collateral vessels on the side of the tongue on which he was experimenting and ligated the lymphatic vessels. The following results were obtained. Section of the hypoglossus nerve was followed by an increased quantity of lymphatic secretion; stimulating the peripheral extremity resulted in a decrease of the secretion of lymph. Section of the lingual nerve is not constant in its effect. Stimulating this nerve greatly increased the secretion of lymph: this increase continues after section of the hypoglossus. If electrical stimulation be increased until lymphatic secretion reaches its maximum, section of the hypoglossus is without effect. The lymphatic secretion is more abundant when the lingual nerve is submitted to a maximum of electric stimulation than it is when the hypoglossus nerve is cut. Thus, the action of the vaso-dilators is more powerful: this is owing to the fact that the vaso-dilators have a more powerful action on the circulation of the blood, and also have a direct action on the walls of the vessels, which perhaps tends to modify their permeability.

Division of Cellular Elements in Tumors.—At a recent meeting of the Academy of Sciences, M. Marey read a note from M. Cornil relating to a new method of segmentation he has recently observed in the epithelial cells of epithelioma. In sections colored by saffronine hæmatoxylin, a large number of nuclei are seen in which the chromatic filament is highly colored and represents the form of a star, with seed-like bodies of chromatic properties. Some of these nuclei are colossal and present a central disk, and the filaments divide later on: it is the beginning of kariokinesis. When the filament of the nucleus is colored, it presents a trilobular aspect: this is the first change attending the phenomenon of division, which results in the formation of three new cells. In the second period a further change takes place, and three nuclear disks are seen in a single nucleus. Finally, complete evolution is achieved, and the cell divides into three new cells.

New Instruments.—At a recent meeting of the Paris Biological Society, M. Malassez, of the College of France, presented a series of instruments consisting of a calorimeter, a glass cylindrical receptacle for spectroscopic examinations, a warm stage, and a heating-plate for warming preparations. M. Malassez drew attention to the advantages of lighting by means of naphtha-carbol, which he considers should be more frequently used in laboratories, on account of the light being white and emitting only a slight amount of heat, yet burning steadily and never flickering.

At the same meeting, M. Boucheron made a statement concerning his investigations on microbe in chalazion. He cultivated and reproduced with them experimental tumors. In weak animals he has sometimes observed superficial or deep lesions of the kidneys.

Papilloma.—At a meeting of the Biological Society, M. Blanchard presented a lizard attacked with a papilloma on the back: the tumor was probably of acarian origin. At the same meeting M. Blanchard described

tænia nana, a parasite seldom met with. Leuckhart and all other writers have made an incorrect statement in declaring that the head is invaginated. Such is not the case, as the head is evaginated; but a few muscular fibres which extend behind the rostrum can during contraction draw it backward, and so form a cavity, but this cavity is not the head of the animal: the head is contained in it. The rostrum itself cannot be inverted; this is impossible, and is a general law equally true of all other worms.

New Observations on the Classification of Alkaloids.—At a recent meeting of the Biological Society, M. Oechsner de Coninck read a paper on oxidized artificial alkaloids. He said that it was still necessary to give the preference to the physical character of alkaloids in order to classify them. With many writers oxidized alkaloids are said to be unalterable, which is an error that should be corrected: there exist volatile oxidized alkaloids. It is probable that alkaloids will be arranged according to the connection they bear to alkaloids of the pyridic and quinoleic series, or, in other words, according as they constitute pyridic or quinoleic hydrates, or oxypyridic or oxyquinoleic hydrates, or complex molecules with a hydrogenized dipyridic or diquinoleic centre, or with a mixed pyridic or quinoleic centre also hydrogenized.

P.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA ACADEMY OF SURGERY.

A MEETING of the Philadelphia Academy of Surgery was held November 1, 1886, Vice-President Dr. S. W. Gross in the chair.

Dr. C. B. Nancrede read the following report of a

GUNSHOT-WOUND OF THE ABDOMEN.

On July 24 I was sent for to see a boy, brought into the hospital about two o'clock with a pistol-ball wound (twenty-two calibre) of the abdomen. The boy was about 15 years of age. The wound of entrance was two inches above the umbilicus, and one inch to the left of the median line. There was no hemorrhage from the external wound, and the boy complained little of pain. The symptoms of shock were very slight. Three-fourths of an hour after admission he vomited, but the vomited matters were free from blood. Half an hour later he again vomited, bringing up some blood and some coffee-ground particles. Between four and seven o'clock he vomited pure blood several times. In all he vomited about twenty ounces of blood. An ice-bag was applied to the abdomen, and three drops of liquor ferri subsulphatis were given by the mouth by the resident physician. Nutritious enemata were given. He continued to spit blood until I saw him, at 10.30 P.M.

I then found no particular abdominal tenderness, and all evidences of shock had passed away. Operation was decided upon. I first introduced a probe into the track of the wound, in order to be sure that the peritoneal cavity had been opened. Finding such to be the case, I made an incision in the median line. I first found what appeared to be a contused wound on the anterior surface of the stomach. Pressure on the stomach, however, caused no escape of liquid or gas, although the viscus was distended. A director was placed in the wound, and after a little manipulation it entered the stomach and blood began to flow. The opening was at once sutured with the ordinary Lembert suture. Examining further, a large ragged wound was found in the anterior wall of the duodenum. An opening was also found in the posterior wall of the stomach. This, while not so large as the wound in the duodenum, was larger than the wound of entrance in the stomach. On the posterior surface of the duodenum another and much larger and more ragged opening was found. These were likewise closed with sutures, and the remainder of the small intestine was examined without finding any more wounds. The ball was not found. The wounds were so thoroughly closed that there was no escape of blood or other matters during the manipulation of the organs. The toilet of the peritoneum was performed with great care, and the external wound was closed, a drainage-tube being inserted in the track of the ball.

The following day I found the boy moving freely in bed, with no complaint of pain. There was not the slightest tension, and no tenderness. The following day the condition continued the same, and the abdomen was actually scaphoid. In the evening, about forty-eight hours after operation, the temperature began to rise, but still there was no tenderness. He became slightly delirious. The temperature steadily rose until it reached 108.4°. Convulsions appeared, and continued to recur. There was, however, no tenderness, no distention of the abdomen, and no discomfort complained of. The patient died at half-past twelve o'clock on July 27. I had charge of the case only during the first thirty-six hours.

I am at a loss to decide what the boy died of. In speaking with a prominent nervous specialist in reference to this case, he could only suggest that the convulsions were reflex, probably due to irritation of the solar plexus, and that the temperature was due to a nervous disturbance. There were none of the rational signs of peritonitis, and I concluded that this was not the cause of death; but, since

a post-mortem examination was refused, this must remain a subject of conjecture.

Dr. C. W. Dulles: In this case the high temperature would raise a suspicion that there was involvement of the heat-centre in the brain. The occurrence of convulsions would also point to disturbance of the brain. A blood-clot swept into the cerebral vessels and causing embolism would account for the symptoms presented. One word with reference to the complete absence of peritonitis in this case. I have seen cases in which almost all the signs of peritonitis were absent, and yet the autopsy has shown peritonitis to be present. It is a well-recognized fact that rise of temperature and frequency of pulse may be absent in peritonitis. I have also seen the abdomen perfectly flaccid. It is, therefore, not perfectly clear that peritonitis was absent in this instance. At the same time, taking the absence of these symptoms with the history of the case, there is reason to believe that there was cerebral lesion.

Dr. S. W. Gross: In the *New York Medical Record* of October 16, Dr. Charles A. Jersey reports a case of pistol-shot wound of the abdomen in which he sewed up four wounds of the intestine and two of the mesentery. The patient died of peritonitis. The wounds in the intestine had healed, but those in the mesentery had sloughed. The fatal result was due apparently to the fact that the mesentery had not been excised before the application of the sutures. An important point to be remembered is that, if the mesentery be damaged, the damaged portion should be excised.

Dr. C. B. Nancrede: In seeking for an explanation of the cause of death in this instance, the embolic theory suggested itself to me. I believe that the high temperature was due to nervous disturbance. I am perfectly aware of the fact that peritonitis may be present without any of the rational signs being found, having met with such cases in my own practice, and in some of these cases the temperature may be almost subnormal. After an injury of this kind, I think, however, if general peritonitis appeared, it would show some symptoms of its presence.

An interesting point in this case was the complete closure of the wound of entrance in the stomach, through which no blood or other matters escaped until it had been opened with a probe. It is probable in such cases, where there is only one clean-cut wound of the stomach, that the ball is passed by the bowel and the patient recovers.*

ROUND-CELLED SARCOMA OF NASAL CAVITY.

Dr. De Forest Willard reported a case and exhibited microscopic specimens of sarcoma of the nose in a woman.

The patient (from whose tumor the various sections seen under the microscopes upon the table were taken) was a woman 32 years of age, without discoverable hereditary tendencies. One year before coming under my care she began to complain of a sensation of fulness in the left nostril, which soon increased and became painful. In six months she was unable to breathe through that side, and for the past two months the pain has been steadily increasing, until it is now extreme. The ala and the nasal and superior maxillary boundaries of the nose are beginning to bulge markedly. The left nasal cavity is entirely blockaded. No diagnosis of the trouble has heretofore been made, and treatment has been but palliative. Immediate operation recommended, and sarcomatous nature of the growth distinctly stated.

During the four days' delay necessitated by domestic arrangements most intense meningeal pains commenced, indicating pressure from below upon the brain. No time was lost, and on the following day an incision was made from the inner line of the orbit into the nasal orifice, laying the ala over towards the median line. This incision was subsequently extended to the angle of the mouth, and the septum narium divided so as to permit the soft tissues to lie well out of the way. As the growth had invaded the roof of the mouth, the maxilla was cut through a little to the right of the median line, so as to permit the removal of the nasal septum, which, although bounding the growth, was itself implicated. The left section of maxilla was also made with saw between the canine and first bicuspid, and extended back through hard and also soft palate, as the latter was found to be nodulated and infiltrated. Through this opening were removed by forceps the turbinate, vomer, and portions of left maxillary, nasal, ethmoid, and sphenoid, until apparently healthy tissue was reached on all sides. In picking away the ethmoidal cells, it was found that the extreme boundary of the neoplasm had just involved the floor of the skull, and a minute portion of the thin plate, being infiltrated, was brought away, disclosing the dura mater. The hemorrhage during the entire operation did not exceed three ounces, although the removal had been so extensive. The saw and forceps were alone used after the primary incision.

The patient rallied well, and the severe headache was greatly relieved. On the following day it returned; the temperature rose rapidly to 105°, pulse 160. There were slight convulsions, followed by stupor, delirium, and death on the fifth day, from meningitis, which had undoubtedly commenced on the day prior to the operation. No post-mortem was permitted.

The specimens were thoroughly examined by sections and with various stainings by Dr. J. P. Crozier Griffith, who reported that the

* Since this discussion was held, Dr. Gross has suggested to the author what seems highly probable, that the cause of death was septic mortification, *i e*, septicæmia, not due to peritonitis, but to the absorption of ptomaïnes from decomposing fluids.

growth was a small round-celled sarcoma, which had infiltrated the surrounding parts to so great a degree that it was impossible to decide whether bone or soft tissues had been first involved. Even the bundles of muscular fibres removed from the cheek were almost obliterated by the cellular infiltration, and in many places the small round cells were found in the inter-fascicular spaces. The mucous membrane of the roof of the mouth was unaffected, while the submucous connective tissue in some preparations was crowded with sarcomatous cells. The palatal process of the superior maxilla was greatly thickened and very porous. The bone-substance was largely destroyed and penetrated by irregular-shaped cavities, which contained round cells and many myeloplaxes. None of these latter were found in any other portion of the growth.

Several of the preparations exhibited beautiful specimens of "obliterative endocarditis," in some instances almost occluding the vessel.

CASES ILLUSTRATING THE RESULTS OF ANTISEPTIC SURGERY.

Dr. Thomas G. Morton presented a number of cases from the Pennsylvania Hospital which illustrated results obtained by perfect antisepsis.

Case I. Compound Depressed Fracture of the Skull.—The patient, a man, 19 years of age, was admitted to the hospital October 7, having been struck on the head with a shifting-apparatus while on shipboard. On admission he presented a small laceration in the fronto-parietal region, with a slight depression. No brain-symptoms were present. An incision was made into the scalp in order to determine whether or not there was greater depression than appeared externally. A marked depression was found, and the trephine was applied. The whole thickness of the bone was depressed. The portion removed was equal in size to two quarters of a dollar. A catgut drain was introduced to the bottom of the wound, and an antiseptic dressing applied. On the fifth day the patient was out of bed. He had no untoward symptoms, and on October 23 the first and only dressing was removed. The catgut drain had disappeared, as well as the catgut sutures, with the exception of those portions outside of the skin. At the moment of trephining the temperature was 100°, but it never went above 99° after the operation.

Case II.—A man, aged 20 years, was admitted August 30, with a crush of the foot, for which a Pirogoff amputation was performed. The flap sloughed, requiring re-amputation, which was performed October 2, under full antisepsis. I made a Teale amputation in the upper third of the leg. Drainage was accomplished by half a dozen No. 3 catgut threads. On October 23 the wound was dressed for the first and last time. The dressings did not present the slightest moisture, and, as in the previous case, the catgut had disappeared.

Case III.—A boy, aged 13 years, came in with a crush of the anterior part of the foot, requiring a Hey amputation. He was admitted October 1, and discharged October 23. There was but one dressing, and the union was complete.

Case IV.—This is an interesting case which I have had under my own care, the only one of the kind I have ever seen. It is a case of rupture of the long head of the biceps. While shovelling dirt out of a ten-foot hole, this man felt something tear in the upper part of the right arm. He at once lost power in the limb. The arm was painful, and a lump the size of a goose-egg appeared above the elbow. On striking it, this lump became hard. The slightest irritation produced a condition of painful muscular spasm, which soon relaxed.

The operation was performed as follows: Two incisions were made, one over the muscle-mass and the other over the median portion of the deltoid. The tendon was found coiled up at the upper portion of the muscle-mass. It was pushed with forceps subcutaneously into the upper wound, and its frayed portion cut off. The tendon was then attached deep in the deltoid by fourteen catgut sutures, and about two dozen were passed through the muscle and tendon. The patient was admitted on the 7th, and the dressing removed on the 23d. There was firm union, and the man can now flex his arm very well.

Case V.—This is a case of entire division of the biceps muscle and the brachial artery by a knife. The artery was tied with catgut at both ends, and the muscle sutured with the same material. The first dressing was removed at the end of two weeks. Where the drain had emerged there was a small opening, which soon closed. The second dressing took place two weeks later, when the wound was found entirely healed.

Dr. J. William White: In reference to the use of catgut drains in trephining cases, I recall a case that I trephined one or two years ago, in which I regretted their use very much. The trouble was probably due to imperfect catgut. In this case there was some oozing of blood, and the catgut became matted together. On account of the oozing, it was found necessary to redress the wound in thirty hours. The catgut was found hardened and incapable of acting as a drain. The drain seemed to be really a source of irritation. The catgut was removed, and the patient made an excellent recovery. In other situations this complication might not be so important, but in the case of trephining it exposes the patient to serious danger.

Dr. C. B. Nancrede: With reference to catgut drains, I can bear out what Dr. White has stated. I wish distinctly not to make

any claim to priority, but simply to state that I believe that I was the first in this city to prepare catgut for use in the thorough Lister operation. I believe that catgut drains are often inefficient. I have employed the method of the originator, Cheyne: taking some twenty strands, doubling them in the middle, and securing it to the bottom of the wound. Three or four strands are then brought out between every two sutures, taking care to keep them close together. In some cases this acts admirably, while in other cases, although the strands are arranged in an exactly similar manner, the catgut has not acted as a drain. The reason for this difference I do not know.

Dr. J. H. Packard: I have noticed that catgut differs much in quality. The best is perfectly smooth; but there is some which is rough and ragged when examined with the microscope. This is weaker than the perfectly smooth, round catgut. It may be that this flocculent matter impairs the efficiency of the small capillary tubes formed by the interstices between the strands.

Dr. J. Ewing Mears: At the St. Mary's Hospital, in wounds of the scalp and of the cranium we use horse-hair for drainage. This serves an excellent purpose. Sometimes we employ horse-hair in tubes, as advised by Cheyne, drawing out one hair at a time.

I have listened to the remarks of Dr. Morton, and examined the cases he has presented, with mingled feelings of gratification and regret. I am gratified that he brings us such beautiful illustrations of methods which have been in use for some time, and shows what can be accomplished by a thorough practice of antiseptic methods. I regret that the surgeons of the Pennsylvania Hospital did not sooner throw the great influence of that venerable institution in favor of the use of antiseptic methods, and thus help those who have been fighting the battle for them for a long time. The results at this institution have been most perfect; but if they had practised antiseptic surgery some years ago their results would have been as perfect as they are to-day.

In 1876 I showed Mr. Lister the result in a case of compound fracture into the elbow-joint. This was treated on the plan advocated by him at that period with the carbolized putty and oil. The dressing was removed on the fourteenth day, when the wound was found to be healed and there was perfect motion of the joint. Mr. Lister said that that was one among the few cases of antiseptic surgery that he had seen practised in this country.

Dr. J. William White: I should like to ask a question with regard to the desirability of attempting to cure a case with one dressing. This is, of course, less troublesome to the surgeon and to the patient. I would ask if it is desirable to wait for the appearance of general symptoms before changing the dressing. At the end of twenty-four hours the oozing has usually ceased. If you do not make it a rule to examine the dressings within the first forty-eight hours, the first indication may be an elevation of temperature or some evidence about the wound that things are not going right. The mischief may then be irremediable.

Dr. William Hunt: There is one class of cases which requires frequent dressing, and that is where there is a compound fracture. There the temperature-chart shows nothing as to the position of the bone. The bones may be in proper position to-day and within twenty-four hours be displaced.

Dr. J. M. Barton: I think that Dr. White's point is well taken. I make it a rule to change the dressing in twenty-four hours. I have the fresh gauze ready, and almost instantly remove the old and apply the fresh. Occasionally I examine the dressing six or seven days later.

Dr. William Hunt: I think that there is too much routine in reference to the use of drainage. All cases do not require it. There are many cases in which I am confident that adhesion would have taken place without the use of drainage.

Dr. Chas. W. Dulles: I agree with Dr. Hunt that there are many cases that do not require drainage, and perhaps the success of catgut for this purpose is because it does not act as a drain. In many cases the amount of discharge which they bring from a wound is very small. The catgut occupies parts that otherwise would be cavities. They fill these parts with a clean material, which may become organized, or be gradually carried away by absorption and be replaced by normal tissue.

I would also refer to the unnecessary fear of blood-clots. They are of no consequence, provided the wound is absolutely clean. I am convinced of the value of aseptic surgery. Many of the minutiæ of so-called antiseptic surgery are mere puerilities, and are only useful as they secure cleanliness on the part of the surgeon and his assistants. I have seen many wounds heal under perfectly clean water-dressings and with the dry-dressing of Mr. Gamgee. I think that if these methods could be carried out scientifically the results would be as good as with antiseptic surgery.

Dr. J. William White: I think, in the face of the statistics which we have at this day, that no rational claim can be made which will place on the same basis the results of surgical methods which depend upon cleanliness alone and those which carry out thoroughly and in all their details antiseptic methods.

Dr. S. W. Gross: The greatest triumph of aseptic surgery has been shown within the past few months in a paper read by Mr. Victor Horsley at the recent meeting of the British Medical Association, and published in the

British Medical Journal for October 9. He has made many experiments as to the localization of the functions of the brain. In the paper referred to, Mr. Horsley reports one case in which he removed a tubercular tumor of the brain involving the motor area. In four days the wound had healed. In two cases of epilepsy he removed the cicatricial tissue along with a portion of the brain-substance. In one of these cases the wound was entirely healed at the end of a week, and in the other, three-fourths of the wound was healed on the seventh day. In the last case he removed a tumor from the brain which measured three inches by two, by two and one-half inches, and weighed four and one-fourth ounces. The wound was healed in four days. No better results than these can be shown. Mr. Horsley carries out all the old Listerian details with the spray, gauze, etc.

It is interesting to note that he makes no small incision either in the soft parts or in the skull. The trephine which he uses is two inches in diameter. The incision in the dura mater is one-fourth of an inch inside of the edge of the opening in the bone. This is brought together with stitches. The external wound is closed with sutures, and a small drainage-tube inserted. At the end of twenty-four hours he removes the tube. He says that when the brain-tissue is cut away there is a tendency for the brain-substance to rise into the wound and evert itself. There is a disposition to hernia cerebri. The discharge, which is the result of the irritation produced by the antiseptic, will have stopped at the end of twenty-four hours. At the end of this time he removes the tube, and keeps a certain amount of discharge within the skull in order to give support to the brain and prevent the tendency to protrusion. This is the most remarkable series of cases that I have seen reported.

I think that when Dr. Morton has used the catgut drainage in a larger number of cases, the time will come when he will throw it to one side. It will do for small wounds, because there is nothing to be drained after twenty-four hours. I am in the habit of practising aseptic surgery, and have used catgut as was recommended by Cheyne, and I have used bone tubes, but I have gone back to the rubber tubes, and now use nothing else. I do not care to change my dressings at the end of thirty-six or forty-eight hours. I am guided as to the time to renew the dressing by the temperature-chart. If everything does well, I change the dressings at the end of seven or eight days. After a few days the drainage-tube may be removed, for its track will be lined by granulations which will keep it open sufficiently long to allow the escape of any fluids. Drainage-tubes are often kept in long after the necessity for them has passed away.

Dr. T. G. Morton: High temperature does not always furnish an indication for renewing the dressing. In a recent case the temperature ran up to 103°, but I did not remove the dressing. A careful examination of the patient revealed a diphtheritic patch on one tonsil. It seems to me that it is better to disturb the dressing as little as possible. I should not remove the dressing unless there was some indication for it or I knew that union had taken place.

Dr. Charles W. Dulles presented

SPECIMENS FROM A CASE OF OÖPHORECTOMY.

These ovaries were removed from a case in which I did Tait's operation ten days ago. There was union by first intention on the sixth day. The operation was unintentionally done within three days of the close of the menstrual flow. Menstruation returned on the fourth day after operation. The day after the operation the temperature went up to 100.6°, but since then it has not been above 100°. The patient was 26 years of age, and the operation was done on account of the mental condition, which I believed to verge on insanity. Both ovaries are in a state of cystic degeneration. The cysts were more distinct at the time of the operation than they are now.

On the motion of Dr. Mears, these ovaries were referred to a committee for examination. The committee consists of Drs. Dulles, Mears, and Simes.

Adjourned.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, OCTOBER 7, 1886.

The President, B. F. BAER, M.D., in the chair.

RUPTURED FALLOPIAN PREGNANCY, LEFT SIDE.

DR. JOSEPH PRICE exhibited the ovary and distended tube, which had burst spontaneously. No fœtus was discovered; a very free hemorrhage into the peritoneal cavity had occurred. In the vast majority of cases the rupture is fatal. The cause of death is invariably hemorrhage.

Dr. PRICE also exhibited specimens from a case of

DOUBLE PYOSALPINX WITH CYST OF THE RIGHT BROAD LIGAMENT AND ABSCESS OF THE OVARY OF THE SAME SIDE.

The specimen consisted of both Fallopian tubes and ovaries, and was a good example of pyosalpinx, both tubes being closed at the ends and distended with pus. The right tube was long and very much distended, and with a large abscess of the ovary, and a cyst of the broad ligament as large as a base-ball occupied the whole of the right side of the pelvic cavity, where the entire mass was firmly bound down and gave rise to great suffering.

The diagnosis in this class of cases is

made or it is not made. He is quite sure Mr. Tait, before proceeding to an operation, is fairly certain of his diagnosis, and this generally presents but little difficulty. It is true that he operates early, as soon as he recognizes dangerous trouble. Dr. Price feels certain that delay with us is accountable for the large death-rate. Dr. Mundé says of Mr. Tait, "Now his wonderful dexterity and tactile sense come into play; for with these fingers he at once makes the diagnosis, which he appears to pride himself on not attempting to make with accuracy in those cases demanding removal of the uterine appendages, the so-called 'Tait's operation,' except through the abdominal incision."

While at Birmingham, recently, Dr. Price visited regularly Mr. Tait's large public clinic, and watched carefully his rapid examination. Dr. Price cited one case to illustrate the fact that Mr. Tait made his diagnosis through the vagina. After passing a number of cases, displacements, etc., which he did not think of sufficient importance to ask us to examine, he came to one and kindly asked us to examine and express an opinion. Dr. Price examined, and found the physical characteristics of pus. Mr. Tait's reply was, "Quite right." The patient was at once sent to Spark Hill for operation. One tube was found full of pus, the other partially filled, and the ovaries cystic. This case illustrates that Tait does not guess at conditions and resort to abdominal section for diagnostic purposes. A world of mischief has already come of such statements. Of course there are exceptional cases demanding exploratory incision. Tait says, "Save when the seat of such organic disease as will explain genuine suffering, the uterine appendages ought not to be removed," and that "those who attribute all the pelvic aches and ails of women to the ovaries and tubes, and rush in to remove them, are dangerous people."

Dr. LONGAKER considered the first case one of tubal pregnancy. Recurring attacks of peritonitis should direct attention to the probability of pyosalpinx. The condition should be easily recognized, but it is sometimes overlooked.

Dr. HOWARD A. KELLY remarked that, in view of the increasing number of cases of hæmatosalpinx which we were now meeting, it was of the utmost importance that all those which came under our immediate notice should receive a more rigid examination, and elaborate attention should be directed to the clinical history. He believed positive diagnostic signs would be discovered which will make our interference more a matter of scientific certainty.

Dr. Kelly was not speaking of those cases of a minor degree of tubal apoplexy or hemorrhage symptomatic of a grave dyscrasia, but of those in which, owing either to a closure of an outlet, or to disease of the mucous membrane of the tubes, or to grave local circulatory disturbance, a mass collected, forming a sausage-like tumor, producing various symptoms, some of which are common to pyosalpinx. There is always great local tenderness, and often there are masses of exudate embedding and obscuring the original tumor, and, in cases of rupture, often a peritonitis as rapidly fatal as in pus cases.

The suspicion that a tubal pregnancy lies at the bottom of the explanation in all these cases is negatived by the fact that a majority of the cases are hæmatosalpinx of both tubes.

A very important symptom, which he learned was present in Dr. Price's case, was also prominent in his own case: that is, a stillicidium of bloody, grumous material per uterus and vaginam, which is regarded by the patient as a prolonged menstrual period. This undoubtedly flows from the tube, and is altogether analogous to the free purulent discharge from the tubes of pyosalpinx which he had seen. He intends in the next case of this kind to catheterize the tube and dilate, and endeavor to relieve his case of hæmatosalpinx or pyosalpinx in this way if the discharge exist in sufficient quantity to lead him to suspect a patulous uterine orifice.

Cases of hæmatosalpinx resulting in rupture and death have been reported: one is figured by Winckel.

There are several facts in connection with the life-history of pyosalpinx which he would like to emphasize. In the first place, he had seen no case which was not the product of a gonorrhœal infection; and, while not prepared to deny the possibility of a purulent change in the contents of a hydrosalpinx, for which Bandl contends, these cases, so ably worked up by Dr. Price, and his own observations elsewhere, all point to *gonorrhœa*.

Again: *these cases, with a history of such acute onset*, constant agonizing pain and constant high temperature, and often typhoid condition, are the advance stages of a florid gonorrhœa, and are found almost exclusively among the unmarried, and result from contact with a similarly active gonorrhœa in the male. They form a picture utterly different from that developing from the exposure of a wife to the discharges of a husband who has been told that a trifling gleety discharge amounts to nothing, or who has long appeared well, only noticing the discharge after occasional debauches or unusual sexual indulgence. *Here the disease assumes the insidious sneaking type*, commencing with little periodical pains scarcely noticed at first, a slight excess of menstrual flow with more pain after, and so on for months, until perhaps an abortion or a pregnancy completed seems to open up channels for a more serious and general infection. He had had typical cases of this in his own practice. It will be often noticeable here that, in view of the much greater suffering experienced after the puerperal period,

the patient will forget what has gone before, and blame her subsequent trouble on the mismanagement of the doctor.

The extreme importance of this whole question, second to none in the whole range of gynæcological investigation, suggests to the mind many pertinent inquiries. What parts of the female genital tract are the favorite seats of the disease? In what order are the structures attacked? May it linger long in one part, and then, under some change of condition, attack another part? What is the resisting power of the virus to our various therapeutic agents?

The third question he believed he could answer satisfactorily. In addition to the well-known cases in which the disease lingers indefinitely in the urethral tubules and the vulvo-vaginal glands, *he believed that in many of our cases of pyosalpinx the disease has already lingered for a long time in the uterine mucosa, and has shown itself in the form of a uterine catarrh.* Since formulating this doctrine for himself, it had necessarily carried him back to the treatment of many of his cases by topical intra-uterine remedies, a form of treatment which he had some time since abandoned as irrational.

A patient is now coming to his office from whose pelvis he literally quarried out a large stinking tubo-ovarian pus-sac. The left tube and ovary were unaffected, and he left them. She has a free purulent discharge from the uterus, for which the only rational treatment is active local measures.

It is important to recognize the fact that, apart from a slight irritation of the outlets of the glands at the vulvar orifice, there may be no other signs of gonorrhœal disease than such discharge as issues from the os uteri. The vagina may be perfectly sound. Braun and Schwartz lay especial emphasis on the fact that the flat epithelium of the vagina has great powers of resistance against the poison, while delicate epithelial structures, particularly the ciliated, are its favorite resting-places.

We will apply our remedies with some success if we bear in mind the fact that the disease does not merely lie on the surface, waiting to be wiped off to effect a cure, nor does it merely penetrate the tubular glands; but it invades the interior of the individual cells and attacks the nuclei. It penetrates not only the strata of connective tissue below, but also blood-vessels and lymph-spaces, and forms thrombi. Relapses, then, even after the most energetic treatment, need not surprise us.

We find here, as in many other points, our forefathers did wiser than they knew: their therapeutic resources reached far beyond their knowledge of etiology. No wonder they used the most powerful acids, and loved to leave a stick of solid nitrate of silver in the uterus to cure this most obstinate catarrh. When he cannot succeed in catheterizing some of these cases, he knows of no other way in which a perceptible deposit of pus, once formed in a tube, can be removed but by the radical operation. And let there be no delay here. Cases have been lost simply from the secondary consequences of carrying around this bag of pus in the abdomen. Dr. Veit alone lost two cases from brown atrophy of the heart.

Dr. M. PRICE remarked that the good results in his brother's operation were due to free irrigation: from three to five gallons of warm water were used to cleanse the peritoneal cavity, and to stream through it for ten or fifteen minutes.

Dr. BAER made some remarks upon the value of intra-uterine medication. Although high authorities had denounced it as unnecessary and dangerous, he had continued to use it: he has never given it up, as he has always found cases where it was needed. The method has been productive of good results in his hands, and he never expects to give it up. It will not cure pyosalpinx, but it may prevent it. It will be ludicrous to see the ultra-scientific return to intra-uterine medication after the denunciation to which it has been subjected. Dr. Baer preferred the injection of tincture of iodine, carbolic acid, nitric acid, or whatever application may be preferred, say about twenty minims by means of a hard-rubber syringe, to any of the cotton-wrapped or other form of application. No case of inflammation has thus far followed this method of treatment in his hands, and he has less uterine colic than with the applicator,—perhaps because less force is required. No tenaculum or counter-pressure is necessary.

Dr. J. PRICE, in closing the discussion, remarked that in the first case there had been a missed period, and two or three weeks later a flow of blood commenced and was continuous for weeks, with tenderness of the abdomen. By the microscope only can an exact diagnosis be made between hæmatosalpinx and tubal pregnancy, and he had had no opportunity of making an accurate one. Rupture may occur early in tubal pregnancy.

An unhealthy condition of the endometrium is very rare. The abortive treatment of gonorrhœa, as applied to the male urethra, has resulted in orchitis and stricture. The case of pyosalpinx was operated upon four weeks after an abortion.

Dr. DRYSDALE, in view of recent strictures upon intra-uterine medication, would like to mention a case seen by him under Mr. Tait's treatment in 1883. The condition was endometritis, and Mr. Tait etherized the patient, dilated the uterus, and applied the Paquelin thermo-cautery thoroughly to the endometrium.

Dr. B. F. BAER presented the specimen and related the following history of

A CASE OF FIBRO-SARCOMATOUS TUMOR OF THE OVARY.

Mrs. ——, aged 36 years, married; two children, youngest fifteen years of age. About July, 1885, she first noticed that the lower portion of her abdomen was increasing in size, especially in the left iliac region, and she was troubled greatly with flatulent dyspepsia. She had suffered for many months before with pain in the left iliac region, and on November 29 she was seized with what she characterized as terrible pains in that region. She was compelled to take to her bed, and her physician said she had pelvic peritonitis. She remained in bed three weeks, when she became able to be up, still suffering considerable pain, however, with diarrhœa and an occasional discharge of blood from the rectum. She now noticed a hardness in the lower left iliac region. This continued to increase in size, while she grew weaker and began to lose flesh. At this time she passed into the hands of another physician, who ordered her back to bed and blistered the surface of the abdomen. She remained in bed four weeks, but the growth failed to diminish in size; on the contrary, it continued to increase. On February 10 she was able to get up, and began to feel stronger, but suffered from excessive tympany, together with nausea, loss of appetite, and great pressure upon the rectum and bladder. She also suffered from severe dyspnœa.

On March 20 she was suddenly seized with cramp-like pains in the region of the tumor. These continued for a few days, with almost entire absence of sleep, and with continuous nausea. The pain gradually subsided, but she was losing flesh and strength. She had another attack of pain, with such dyspnœa as to make her recovery a matter of doubt. Ten days later she first consulted me.

On examination, I found the abdomen greatly distended and tympanitic, except in the left hypogastric region, which was dull on percussion. Palpation revealed an irregular, lobulated mass, apparently having pelvic connections. The uterus occupied the right anterior portion of the pelvis, crowded over by the mass in the left pelvic region. This mass was hard and firm and nodulated, extended into the hypogastric region, and was apparently closely connected with the uterus, as well as with the other organs of the pelvis.

The previous history of the case, together with the physical signs now present, led me to suspect the presence of pus, possibly suppuration in a thick-walled ovarian cyst. The uterus measured two and a half inches in depth. Its connection with the tumor did not seem more than ligamentous, and the apparent rapid development weighed against fibroid tumor of that organ.

The indications were plain. The patient entered my private hospital April 29. Ether was administered, and an exploratory incision was made. This revealed a nodulated mass having the color and appearance of a thick-walled ovarian cyst; but it seemed to be solid throughout, and was firmly fixed in the pelvis. Its size could not be reduced, and the incision was increased to six inches, and the tumor separated from its adhesions and lifted from its nest. I was much gratified to find that it had a very small pedicle, which was tied, and the tumor was removed.

The patient bore the operation badly, and it was thought that she would succumb on the table. It was hours before the pulse could be felt at the wrist; but she rallied, and the next morning she seemed to be doing quite well. A free discharge of bloody serum had taken place through the drainage-tube. After alternate sinkings and rallyings, she died on the evening of the second day, from shock, from which she had not entirely recovered since the operation. There was not the slightest evidence of inflammatory action. The discharge from the drainage-tube had ceased, and the wound was healing nicely.

This case is interesting on account of the character of the tumor. "A true fibrous tumor of the ovary is a thing of very rare occurrence," says Wells; and he goes on to say, "It will be found that many cases reported as ovarian fibroids are in reality tumors beginning in the uterus, which overgrow and involve the ovary so as to disguise its natural appearance or conceal it altogether." Doran says, "I have never found a solid ovarian tumor to be formed of pure fibrous tissue, and strongly suspect that fibroids of the ovary are identical pathologically with fibroids of the uterus. All the solid tumors that I have seen removed at operations have proved to be sarcomatous or cancerous."

Dr. Formad, who kindly examined this specimen, sent the following report: "The solid tumor of the ovary proved, upon microscopical examination, to be a fibroma with decided sarcomatous change,—a fibro-sarcoma." A peculiarity of this tumor was its nodular character.

Dr. KELLY remarked that true fibroid of the ovary was very rare, and the specimen here presented was not, in his opinion, fibroid, but sarcoma. The only fibroid he had seen was one which he examined last spring. That tumor was about one centimetre in diameter, and, although attached to the ovary, lay in the grasp of an adherent fimbriated extremity, which cast some doubt upon the origin of the small growth. The so-called fibroid appears to be in every way analogous to the "fibroids" of the uterus and broad ligaments, and a useful diagnostic characteristic is the appearance of bundles of "sympathetically" enlarged fibres running from the hilum into the broad ligament.

(To be continued.)

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held November 4, 1886, the President, A. JACOBI, M.D., in the chair.

THE MOVEMENTS OF THE HEART AND INTESTINES ILLUSTRATED BY PHOTOGRAPHY.

Dr. WILLIAM GILMAN THOMPSON read a paper illustrated by instantaneous photographs of the normal pulsating heart, taken in full diastole and systole and the various intervals between, and compared them with others showing the modifications in the form of the heart produced by thermic, chemical, and mechanical irritation. By a special form of apparatus he had been enabled to take six different views of the heart in motion within one second. This was something which in this country had never been accomplished before. The animal experimented upon was anæsthetized, the heart exposed, and a collar of white celluloid placed behind it, thus giving a white background. He had photographed the heart of the kitten, frog, pigeon, lizard, calf, rabbit, and other animals. The shape of the heart in these different animals differs considerably; but in general the longitudinal diameter exceeds the transverse by one-fourth during diastole. The movements and alterations in the form of the heart were determined largely by the thick-walled left ventricle. If the chest and pericardium were opened and artificial respiration kept up, the movements of the heart would be found greatly exaggerated; if artificial respiration were not kept up, the movements of the heart might be diminished. It was, therefore, too uncertain to enable him to draw conclusions under such circumstances as to what were the relations of the heart during motion to the other organs in the human subject. Much might be learned, however, with regard to the changes in form of the heart and the force of its pulsation.

Among the more important later observations which the author had made were the following. *First*, in most animals, the base of the heart descended very little, if at all, during systole. A prominent exception to this rule was seen in the frog. This movement was generally ascribed to elongation of the large arteries from increased tension during ventricular systole. *Secondly*, regarding changes in the diameters of the heart during systole there was much dispute among physiologists. In most animals there was slight shortening in the long diameter during systole; in the pigeon, however, there was slight lengthening. The transverse diameter was shortened usually twice as much as the longitudinal diameter in ventricular systole. The antero-posterior diameter was uniformly elongated by about one-eighth. *Thirdly*, the apex, when the pericardium was removed, was uniformly tilted forward, upward, and to the right, and the rotatory movement of the heart from left to right on its long axis occurred in excised hearts, as it did also in the heart *in situ*, but less extensively. The right ventricle lay so much higher and was so much thinner walled than the left that it had much less influence on the shape and movement of the heart than the left, especially near the apex.

It was a question in text-books whether the apex-beat of the heart was due to the thrust of the apex against the chest-wall or to the hardened anterior wall of the left ventricle, which in systole pressed against the chest. When the chest was opened, the apex was free to move through a much greater distance; and it was therefore unfair to conclude that, in the natural position, the apex-beat might not be due, at least in part, to the hardened anterior wall of the heart pressing against the chest; but the stroke of the apex also influenced this beat in animals.

The apex and whole contour of the heart were greatly modified by the influence of drugs. Those drugs which increased the force of systole rendered the apex of the heart sharper. Drugs which lengthened diastole rendered the apex blunter. If in the latter case an antagonistic drug was given, the apex would still remain rounder than normal. Uninfluenced by drugs, the surface of the heart during its movements was smooth; but it became more or less irregular under the influence of drugs. When the heart was slowly deprived of blood, the thick-walled left ventricle retained its shape pretty well; but, if held up, the right ventricle pouched downward. If the heart were now to be plunged into a liquid, it would fill itself by suction and assume a rounded form. The right ventricle continued to act feebly after the left had ceased its attempts, thus showing the apparently greater vitality of the right ventricle.

The auricles in systole were uniformly contracted, but to a small extent as compared with their own volume or the contraction of the ventricles. The independence of contraction between the auricles and the ventricles was shown by the photographs: the auricular systole overlapped the ventricular in point of time.

The extent of movement of the heart as a whole bore no definite relation to its size. It depended entirely upon the suddenness and force of systole, or the amount of work done by the heart.

In the photographs during systole the coronary arteries were seen to be prominent and distended. It had been questioned whether they were filled during systole or closed during systole by the cusps of the valves. If the latter were the case, these arteries must be filled during diastole by the elastic recoil of the aorta. The coronary arteries had been cut open during systole and found to spurt at that time; but it was shown in the photo-

graphs that their blood was dammed back during systole by the strongly-contracted ventricle, and, being thus put upon extra tension, it was only natural that the blood should spurt when their walls were cut. The author thought the illustrations proved that the coronary arteries received some blood-supply during diastole, and perhaps also during systole.

When the longitudinal and spiral fibres were destroyed by section, the circular fibres were made to contract, and almost entirely occluded the ventricular lumen in some cases. The contraction of the circular fibres was uniform and symmetrical. The papillary muscles were seen to stand out towards the centre of the ventricular cavities, and thus the photographs demonstrated that they had independent contractile power.

Of the various cardiac stimulants which he had tried, heat directly applied had the greatest influence, and apparently more upon the superficial muscles. Glenoin appeared to be the most active of the chemicals. Chloral seemed to be powerful in causing marked diastole, and the surface of the heart under its influence became irregular.

Dr. Thompson had also been successful in photographing the intestines, bladder, and diaphragm in motion. He showed photographs of the intestine which demonstrated peristaltic action towards both the pylorus and the anus; also the pendulum motion, and a circular contraction, which, when caused by pinching the intestine, produced considerable constriction. As to the peristaltic wave travelling in opposite directions, he thought it could only do good if the reverse motion were less in degree than the forward, as it would bring the ingesta more intimately in contact with the surface of the intestine and hasten their absorption.

Discussion was opened by Dr. A. H. Smith, and the President also made some remarks on the paper. The President was pleased to see American physicians thus ably competing in original investigations with the Europeans.

TWO OPERATIONS FOR INTESTINAL OBSTRUCTION.

Dr. W. GILL WYLIE reported the cases, and said that out of sixty-seven laparotomies which he had performed since January, 1885, he had selected six to report which were not strictly gynæcological cases. The first was one of laparotomy for complete intestinal obstruction. The patient was aged 50; menstruation had ceased four years. She had always been delicate. Eleven years ago a fibroid tumor was discovered in the pelvis. A physician introduced the uterine sound, which was followed by a violent attack of peritonitis. The patient remained in bed most of the time for a year. Since then she had had trouble in procuring movements of the bowels. Previous to the 6th of last October she had had more or less constant abdominal distention, with colic. During that night she began to suffer from intestinal obstruction in a more marked degree, having violent colic and vomiting. After these symptoms had continued for four days, during which time they were unable to produce a movement of the bowels, Dr. Wylie opened the abdomen. After breaking up some peritoneal cysts, the intestines were taken out of the abdomen, when a band of lymph, occluding the intestine at one point, was discovered and divided. The gut immediately surrounding was discolored, but not gangrenous. There was a fibroid involving the uterus and broad ligaments, which it was thought best to allow to remain. The patient made a good recovery, and had had less trouble with her bowels since the operation than she had had for some time before.

Dr. Wylie also related a case of perityphlitis, in which he had opened the abdomen and introduced a drainage-tube; one of tubercular peritonitis, in which he had practised permanent drainage; and made brief mention of the other three out of the six cases. He thought it happened not infrequently after laparotomy that a certain amount of peritonitis developed, leading to the formation of bands of lymph which to a greater or less degree obstructed the movements of the bowels; and he thought that if tympanitis and other symptoms pointed to the probability of the development of such bands after laparotomy, it would be better to cause a gentle movement of the bowels at an early date, sometimes as early as twenty-four hours after the operation, before such bands may have become firm in structure. He also thought that tapping abdominal tumors often led to the formation of such bands; and, as the procedure was calculated to give only temporary relief, he advised that the patient be sent to a competent gynæcologist for exploratory laparotomy, and, if found practicable, for operation for radical cure.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held October 27, 1886, the President, JOHN A. WYETH, M.D., in the chair.

TRANSPOSITION OF THE ABDOMINAL ORGANS—OBSTRUCTION OF THE GALL-DUCT.

Dr. MITCHELL PRUDDEN presented a part of the abdominal viscera and illustrated on the board a case of transposition of the abdominal viscera, especially with regard to the situation of the large intestine; a stone also obstructed the gall-duct. The patient was a middle-aged laborer, who had had a mild attack of gastritis, with anorexia, occasional nausea, and some diarrhœa. He lost flesh and strength, and when admitted to the hospital the liver was found enlarged and smooth,

extending over to the left side. There was nothing abnormal on palpation of the abdomen. There were râles at the apex of the right lung. The patient remained in much the same condition for a month, when, on September 5, without apparent cause, he had a slight chill and a rise of temperature to 103°. It then fell, but again rose to 106°; again fell to normal; but, two days later, again rose and fell; and then remained normal until October 12, when it rose and remained between 103° and 105° until just before death, when it fell, to rise again at death. The patient gradually failed: there were numerous crepitant râles over the lungs. He died October 20. A few days before death a hypodermic needle was introduced over the region where the gall-bladder should be, and a liquid containing a large number of bacteria was withdrawn. Subsequent insertion of the needle failed to withdraw anything but a few drops of blood.

The autopsy revealed the heart normal; the lung showed emphysema, chronic bronchitis, with interstitial pneumonia and œdema of the upper and lower lobes; the omentum was absent; the liver was drawn behind the free border of the ribs, was enlarged, the left lobe nearly as large as the right, in a condition of cirrhosis and moderate fatty degeneration. Among the transposed abdominal viscera, the organ to which he called especial attention was the large intestine. The cæcum was high up on the right side, and, after ascending to the free border of the ribs, the gut turned and passed directly to the left side; thence downward into the pelvis; then made a sharp turn and passed upward to near the umbilicus, and down again to form the rectum. The spleen was long and composed of three lobes, besides a number of supernumerary spleens, small in size. The position of the large intestine showed plainly that the hypodermic needle had entered what corresponded to the ascending portion of the colon.

Dr. ROOSEVELT said the patient had been under his care, and, gall-stone being suspected, especial pains were taken to elicit a history of gall-stones, but failed; yet at the autopsy the gall-duct was found occluded by a stone.

LESIONS INDUCED BY CORROSIVE SUBLIMATE.

Dr. ROOSEVELT presented the kidneys and large intestine of a negress, aged 19, who had died from the effects of swallowing twenty-five grains of corrosive sublimate in solution. Just after taking the poison she vomited a portion of it, and immediately began to experience severe pain in the throat and abdomen. After one and a half hours, severe purging began. It was probably five hours after taking the poison before the patient was brought to the hospital, when she passed some urine containing twenty per cent. of albumen and an abundance of casts, epithelium, pus, and blood. She stated that her feet and hands had swollen occasionally during the past year. Two days after admission it was recorded that she was suffering from constant purging, and that she had passed only an ounce and a half of urine since admission. The purging continued, also pain in the abdomen and vomiting, and on the 12th of May, six days after taking the poison, the patient died in collapse. The temperature had remained normal or subnormal save on one day, when it rose to 100°, and the night before death to above 102°. During her illness the kidneys had secreted only two ounces and five drachms of urine, containing the elements before mentioned. The kidneys at post-mortem were found to have undergone a degree of inflammation entirely destructive of their secretory function. The epithelium lining the uriniferous tubules was in various stages of degeneration and showed a great variety of form. A false or diphtheritic membrane covered the lining membrane of the intestine, much more marked in the large intestine. The mucous membrane of the stomach was reddened, swollen, and coated with mucus. A point of interest in the case was the almost complete suppression of urine unattended by any uræmic symptoms.

Dr. JOHN C. PETERS remarked that some years ago it was common, especially at the New York Hospital, to give large doses of corrosive sublimate in cases of Bright's disease, and the effect was marked: the patient passed a large amount of urine, and his symptoms were greatly relieved, although the chronic condition of the kidneys was not cured.

INTRA-CANALICULAR FIBROMA OF THE MAMMA.

Dr. SCHIFF presented a specimen under the microscope, being a portion of an intra-canalicular fibroid of the mamma, a little larger than a walnut in size.

Dr. Schiff also presented a hæmorrhoidal tumor first treated by injection with a solution of carbolic acid and afterwards extirpated.

Dr. PRUDDEN remarked, regarding the first specimen, that it was an excellent illustration of intra-canalicular fibroma of the mamma. Such specimens were rare, and when undergoing ulcerative change were liable to be mistaken for malignant growths.

Dr. WALDSTEIN said it had been shown that intra-canalicular fibromas of the mamma sometimes did become carcinomatous.

BRONCHO-PNEUMONIA WITH UNUSUALLY HIGH TEMPERATURE.

Dr. L. EMMET HOLT presented the lungs and kidneys of a child which died at the age of 11 months. The child had always been healthy until sixteen days before death, when

it was taken with symptoms pointing strongly to broncho-pneumonia. An interesting feature in the case was an elevation of the temperature at once to 105°, and a continued high temperature nearly throughout the disease, on two days reaching 106°, and on one occasion reaching 107°. Antipyrine had failed to keep the temperature down for any length of time, but a lukewarm bath would bring it down from two to four degrees; but after from three to five hours it would rise again. Suspecting some malarial complication, quinine was given, but without any effect. The autopsy revealed the usual lesions of broncho-pneumonia, and in addition some abscesses of the size of a pea in the apex of the right lung. There was parenchymatous nephritis, a moderate amount of entero-colitis, and a small amount of meningitis. No tubercles could be found.

Dr. J. Lewis Smith remarked that the nephritis would produce the elevation of temperature.

Dr. Holt regarded the nephritis as secondary, and not as the primary lesion.

Dr. Smith said he was reluctant to use antipyrine to reduce the temperature in the diseases of infancy. He would prefer salicylate of sodium.

Dr. Holt said he had not seen any bad effects from the use of antipyrine in children, although he had used it extensively; but it had not been his custom to give it in pneumonia.

CONGENITAL ABSENCE OF THE RIGHT LUNG—MALFORMED HEART.

Dr. J. Lewis Smith presented the heart and lung of a negro baby which died at the age of about two months. When about ten days old, the mother brought the child to his office and said that it had always gasped for breath. Dr. Smith found the respirations 70 to the minute, the pulse feeble and frequent. The temperature was not markedly elevated. Over the right side of the chest was complete dulness, which he supposed to be due to pleurisy with effusion; but on applying the ear over the area of dulness he could distinctly hear the respiratory sound, although a little feebler perhaps than on the left side. Bronchial respiration was not observed on the right side. The hypodermic needle withdrew only a few drops of blood from the right side. He sent the child to an experienced surgeon, who failed to withdraw any fluid from the right pleural cavity, and who came to the conclusion that there was probably pneumonic consolidation to account for the dulness on that side. A little less than two months afterwards Dr. Smith was sent for, and found the same physical signs; but the child had grown, and this fact, with the absence of elevation of temperature, led to a doubt as to the diagnosis of pleurisy. A day or two later he was notified that the child had died suddenly.

An autopsy was obtained, and a partial report on the specimen had been handed him by Dr. McNamara. The specimen consisted of the left lung, heart, and great vessels. Careful examination revealed at the point where the aorta arose a thin fragment of lung-tissue which had never been dilated. This was the rudimentary right lung. The trachea branched into the right and left bronchi, the right becoming lost about a quarter of an inch from the bifurcation. The heart revealed a large left ventricle with three openings,—one into the aorta, one into the auricle, and the third through the septum which communicated with the right pulmonary artery. There were but one auricle and one ventricle. The specimen was referred to the Committee on Microscopy.

STENOSIS OF THE MITRAL VALVE, ETC.

Dr. Frank Ferguson presented a heart which illustrated hypertrophy with dilatation of the cavities, together with mitral stenosis; the tricuspid opening was about the size the mitral should be in health. All the viscera were congested. The liver presented the appearance of the so-called "nutmeg liver." The patient had suffered from dyspnœa. There had been pulsation in the veins of the right side of the neck, râles over the lungs, slight general jaundice, etc.

REVIEWS AND BOOK NOTICES.

The Curability and Treatment of Pulmonary Phthisis. By S. Jaccoud, Professor of Medical Pathology to the Faculty of Paris, etc. Translated and edited by Montagu Lubbock, M.D. (London and Paris), etc. New York, D. Appleton & Co., 1885. Cloth, 8vo, pp. 407.

The new ideas which have lately been accepted of the etiology of phthisis pulmonalis, and the accumulated experience of the profession as to the value of climatic stations in its treatment, have warranted the statement that this disease may be not only ameliorated by treatment, but actually cured. This work by Professor Jaccoud is timely, and contributes considerable from his personal experience to the elucidation of the subject. The curability of pulmonary consumption is first taken up, and is followed by a consideration of the conditions of curability and prophylactic treatment, and the work concludes with the therapeutic method, and especially the climatic treatment. In the latter part of the work the results of Professor Jaccoud's personal observation and studies with regard to health-resorts in Europe are communicated, with judicious recommendations with regard to the selection of a place of abode by consumptives.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M.D., Clinical Professor of the Diseases of Children in Bellevue Hospital Medical College, New York. Philadelphia, Lea Brothers & Co., 1886. Octavo, 867 pages, 40 illustrations. Cloth, $4.50; leather, $5.50.

The sixth edition of Lewis Smith's valuable treatise on diseases of children comes to hand thoroughly revised and with some additions. The usual diseases of infancy and childhood are discussed, and their therapeutics rationally considered; this being preceded by nine chapters in which various physiological and hygienic topics of great importance in this connection are reviewed. Maternal impressions, the causes of infant mortality, the proper physical conditions for lactation, artificial feeding, selection of a wet-nurse, bathing, clothing, and exercise, each are considered and practical suggestions given in relation thereto. We look upon this as the standard American work on diseases of children, and its clearness and directness of language make it specially valuable for students' use.

The Ten Laws of Health; or, How Diseases are Produced and Prevented: and Family Guide to Protection against Epidemic Diseases and other Dangerous Infections. By J. R. Black, M.D. Philadelphia, J. B. Lippincott Company, 1885.

A compendious treatise upon personal hygiene in popular form is presented in this readable work, which should have been noticed earlier in these pages. The first part is taken up with the discussion of ten so-called "laws of health," in which the most prominent causes of morbid conditions are reviewed. The second part considers the germ-theory of disease, and makes very practical and valuable suggestions with regard to disinfection and general management of the ordinary zymotic diseases. We feel confident that much good can be done by the circulation of such works among the laity.

The Disorders of Menstruation: A Practical Treatise. By John N. Upshur, M.D., Professor of Materia Medica and Therapeutics in the Medical College of Virginia, Richmond, Virginia. New York and London, G. P. Putnam's Sons, 1886. 12mo, pp. 200.

This little work is apparently a plea for the intelligent and conscientious management, as opposed to the routine treatment, of a series of disorders to which a large portion of the sufferings of women are directly or indirectly attributable. It is written in clear style, and, if widely read, might result in an improvement in practice, in some directions at least, that could not fail to redound to the credit of the profession.

Archives of Ophthalmology. Volume XV. Nos. 2 and 3. G. P. Putnam's Sons, New York.

These numbers, issued separately, are at hand, and fully sustain the reputation of the *Archives*. We note an improvement over previous numbers in that the articles are short and comprehensive, and free from the prolixity which often has marked the translated articles. The usual Report on the Progress of Ophthalmology is appended to each number. A brief summary of the more important articles will appear in our next Report on Ophthalmology.

Venereal Memoranda. A Manual for Student and Practitioner. By P. A. Morrow, M.D., etc. New York, William Wood & Co., 1886.

Gonorrhœa, chancroid, and syphilis are considered in a series of aphorisms, and due consideration given to prophylaxis and treatment of venereal diseases. A valuable collection.

NEW REMEDIES AND CLINICAL NOTES.

Post-Febrile Neuritis.—One of the most important advances made during the past year in neurology is the recognition of the great frequency of neuritis. It is now known that many forms of paralysis and disorders of sensation commonly attributed to cerebral and spinal changes are really due to inflammation of the peripheral nerves. It is only within a very recent period that alcoholic neuritis has been determined to be a distinct disease. Still later, we have proof that many cases of paralysis following the infectious fevers are really due to a peripheral neuritis. Of all the acute febrile diseases, diphtheria is the most frequently followed by these changes. So profound are they in the peripheral nerves after this disease at times that recovery is hopeless. The vast majority of cases, however, recover completely.

The paralysis which is occasionally seen following typhoid fever has been almost universally attributed to a subacute poliomyelitis, but from the recent researches of Pitrès and Vaillard it is plain that it is more frequently due to a peripheral neuritis. In several cases they found marked degenerative changes in the ulnar, musculo-spiral, peritoneal, saphena, and other nerves. These changes closely resemble those found in the nerves in cases of fatal diphtheritic paralysis. Not only is peripheral neuritis a frequent effect of the acute infectious diseases, but it is also seen in those of the chronic infectious class. The same observers have found degenerative changes during the course of chronic tuberculosis in the peripheral nerves.—*Canada Med. and Surg. Journal.*

A Solvent for Sordes.—Dr. A. D. MacGregor speaks highly of boric acid as a topical application in the unhealthy condition in which we frequently find the mouth, tongue, and teeth in severe cases of typhoid fever. He says, in the *British Medical Journal*, "The mouth is hot; the lips dry, cracked, and glued to the sordes-covered teeth by inspissated mucus and saliva; the tongue dry, or even glazed and hard, brown or black, crusted with a fetid fur. Under these circumstances a pigment containing boric acid (thirty grains), chlorate of potassium (twenty grains), lemon-juice (five fluidrachms), and glycerin (three fluidrachms) yields very comforting results. When the teeth are well rubbed with this, the sordes quickly and easily becomes detached; little harm will follow from the acid present. The boric acid attacks the masses of bacilli and bacteria; the chlorate of potassium cools and soothes the mucous membrane; the glycerin and lemon-juice moisten the parts and aid the salivary secretion."

The Relation between Gastric Ulcer and Anæmia.—Circular ulcers of the stomach, according to Silbermann, of Breslau, are favored in their development by that kind of anæmia in which there is deficiency of the hæmoglobin. All the theories for the production of gastric ulcer are satisfied in this condition,—viz., arterial anæmia (Klebs), venous hyperæmia of the gastric mucosa (Key), venous stasis in the hepatic vessels (Gunsberg), circumscribed hemorrhages (Virchow), and, finally, diminished alkalinity of the blood.—*Lancet.*

MISCELLANY.

The Progress of Cremation.—The crematory near New York has during its short career had more cremations than any other institution of the kind in the country, but its business does not now attract the attention it did at first. The novelty of the thing has worn off, and very likely the desire of people to be burned instead of buried has somewhat lessened.

In Italy, where the method has been most earnestly advocated, it has not made very great progress.

The city of Milan has been the headquarters for the advocates of cremation, but even here the furnaces are not often lighted, though the death-rate continues as usual.

In Rome it has had no acceptance at all, and the Pope has recently issued some decrees which make it very evident that the Papacy will fight bitterly what it calls a pagan custom. All faithful Catholics are forbidden to affiliate with any cremation society, and no one is to be permitted to order or facilitate cremation, even when the testator should have directed this kind of sepulture for himself and when his executors and next of kin are desirous of carrying out his wishes.

Appointment of a Commission on the Mode of Capital Punishment.—The New York Legislature, at its recent session, passed a law of considerable general interest. It provided for a commission to investigate and report to the Legislature, on or before the fourth Tuesday of January, 1887, "the most practical and humane method known to modern science of carrying into effect the sentence of death in capital cases." The following persons were appointed commissioners: Elbridge P. Gerry, of New York City; Dr. A. P. Southwick, of Buffalo; and Matthew Hale, Esq., of Albany. This law is the outcome of a determined effort on the part of many citizens to have a competent commission investigate and see if a better method of inflicting the death-penalty than hanging could be devised. There is no public sentiment in New York averse to the infliction of death as a punishment for murder, but hanging is repulsive for many reasons. The Medico-Legal Society has discussed the subject, and many methods have been proposed in place of the scaffold and noose. The report of the commission will be awaited with considerable interest.

The Medical Education of Women in Edinburgh.—After an interval of more than twelve years, women are now admitted to medical education in Edinburgh: six women have entered upon the first year's course of studies.

Duhring's "Treatise on Diseases of the Skin" has just been published in the Russian language. This is an additional compliment to a Philadelphia author, whose work has already appeared in two editions in English and has been translated into French and Italian.

NOTES AND QUERIES.

OBITUARY.

Dr. Joseph Gibbons Richardson, Professor of Hygiene in the Medical Department of the University of Pennsylvania, and member of the Board of Health of this city, died of apoplexy on the 13th instant, in the fifty-first year of his age. A native of Philadelphia, and a member of the Society of Friends, he pursued his studies at the University of Pennsylvania, from which he received his medical degree in 1862. Subsequently he was resident physician in the Pennsylvania Hospital and the Wills Hospital, and resided for five years at Union Springs, Cayuga County, New York, returning to Philadelphia as his place of permanent abode in 1868. He was the author of a work on Medical Microscopy, and a frequent contributor to medical journals. He was Secretary of the Biological and Microscopical Section of the Academy of the Natural Sciences, a Fellow of the College of Physicians, a member of the Philadelphia County Medical Society and of the American Medical Association, and a corresponding member of the Société Française d'Hygiène. For several years he was microscopist to the Pennsylvania Hospital and Visiting Physician to the Presbyterian Hospital of this city.

Professor Paul Bert, formerly Minister of Public Instruction under the Gambetta administration, and of late the

resident Minister of France at Hué, Anam, died at his post of duty on November 11, a victim of the climate. He was born October 19, 1833, at Auxerre, France, pursued his studies in Paris, and in 1868 was elected Professor of Physiology in the Faculty of Science of Paris. In 1875 he received the biennial prize of the Institute for physiological research. He was elected a member of the National Assembly in 1872, and subsequently became prominent by his labors to advance popular education.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 7, 1886, *TO NOVEMBER* 20, 1886.

MAJOR J. P. WRIGHT, SURGEON.—From Department of Texas to Department of Missouri, for duty as attending surgeon at Leavenworth Military Prison, Fort Leavenworth, Kansas.

MAJOR W. H. FORWARD, SURGEON.—From duty as attending surgeon at Headquarters, Division of the Missouri, and examiner of recruits at Chicago, Illinois, to Department of Dakota.

MAJOR V. B. HUBBARD, SURGEON.—From Department of Arizona to duty as attending surgeon at Headquarters, Division of the Missouri, and as examiner of recruits at Chicago, Illinois.
S. O. 257, A. G. O., November 4, 1886.

MAJOR C. R. GREENLEAF, SURGEON.—Relieved from duty at Columbus Barracks, Ohio, and ordered for duty as attending surgeon at Headquarters, Division of the Missouri, and examiner of recruits at Chicago, Illinois. S. O. 268, A. G. O., November 17, 1886.

MAJOR HENRY R. TILTON, SURGEON.—Relieved from the duties of attending surgeon at the Headquarters of Division of the Pacific and Department of California. S. O. 96, Division of the Pacific, November 9, 1886.

MAJOR W. E. WATERS, SURGEON.—Ordered from Fort Spokane to Vancouver Barracks, Washington Territory, for duty at that post. S. O. 197, Department of Colorado, November 8, 1886.

PARAGRAPH 8, S. O. 257, A. G. O., November 4, 1886, is so amended as to direct Major V. B. Hubbard, Surgeon, to report in person to the commanding officer, Columbus Barracks, Ohio, for duty. Paragraph 3, S. O. 268, A. G. O., November 17, 1886.

MAJOR D. G. CALDWELL, SURGEON.—Granted leave of absence for one month, with permission to apply for twenty days' extension. S. O. 150, Department of the Platte, November 12, 1886.

MAJOR CHARLES SMART, SURGEON.—Granted leave of absence for one month. S. O. 265, A. G. O., November 13, 1886.

CAPTAIN L. Y. LORING, ASSISTANT-SURGEON.—Sick-leave of absence further extended three months, on surgeon's certificate of disability. To be relieved from duty in Department of California, and, on the expiration of his present sick-leave of absence, will report by letter to the Surgeon-General of the Army. S. O. 262, A. G. O., November 10, 1886.

CAPTAIN E. B. MOSELEY, ASSISTANT-SURGEON.—Assigned to duty as attending surgeon in San Francisco, California. S. O. 94, Division of the Pacific, November 1, 1886.

CAPTAIN HARRY O. PERLEY, ASSISTANT-SURGEON.—Granted leave of absence for four months on surgeon's certificate of disability. S. O. 257, A. G. O., November 4, 1886.

FIRST-LIEUTENANT CHARLES C. BARROWS, ASSISTANT-SURGEON.—Ordered to report to commanding officer, St. Francis Barracks, St. Augustine, Florida, for duty at Fort Marion. S. O. 180, Division of the Atlantic, November 10, 1886.

FIRST-LIEUTENANT C. N. B. MACAULEY, ASSISTANT-SURGEON.—Granted leave of absence for twenty days. S. O. 118, Department of Dakota, November 8, 1886.

FIRST-LIEUTENANT JOHN L. PHILLIPS, ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply at Headquarters, Division of the Missouri, for an extension of one month. S. O. 116, Department of Dakota, November 2, 1886.

FIRST-LIEUTENANT W. D. CROSBY, ASSISTANT-SURGEON.—Ordered from Fort McDowell, Arizona Territory, to Fort Bowie, Arizona Territory. S. O. 110, Department of Arizona, October 29, 1886.

FIRST-LIEUTENANT CHARLES B. EWING, ASSISTANT-SURGEON.—Ordered from Fort Supply, Indian Territory, to Fort Leavenworth, Kansas, for duty. S. O. 126, Department of the Missouri, November 6, 1886.

FIRST-LIEUTENANT FRANCIS J. IVES, ASSISTANT-SURGEON.—Ordered to proceed to and take station at Fort D. A. Russell, Wyoming. S. O. 145, Department of the Platte, November 4, 1886.

FIRST-LIEUTENANT E. R. MORRIS, ASSISTANT-SURGEON.—Ordered from Fort Bayard, New Mexico, to Fort Thomas, Arizona Territory. S. O. 110, Department of Arizona, October 29, 1886.

APPOINTMENTS.

LIEUTENANT-COLONEL JOHN MOORE, ASSISTANT-MEDICAL PURVEYOR.—To be Surgeon-General of the Army, November 18, 1886.

ROBERT R. BALL.—To be Assistant-Surgeon, with the rank of First-Lieutenant, November 19, 1886.

PAUL CLENDENIN, First-Lieutenant and Assistant-Surgeon, November 5, 1886.

CHARLES L. G. ANDERSON, First-Lieutenant and Assistant-Surgeon, November 5, 1886.

PROMOTIONS.

MAJOR JOSEPH C. BAILY, SURGEON.—To be Assistant-Medical Purveyor, with the rank of Lieutenant-Colonel, November 18, 1886.

CAPTAIN CHARLES L. HEIZMANN, ASSISTANT-SURGEON.—To be Surgeon, with the rank of Major, November 18, 1886.

CAPTAIN ROBERT M. O'REILLY, ASSISTANT-SURGEON.—To be Major and Surgeon, November 1, 1886, *vice* Clements, deceased.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDED NOVEMBER 20, 1886.

PASSED ASSISTANT-SURGEON OLIVER DIEHL, U.S.N.—Granted three months' leave of absence from the 26th of October.

THEORON WOOLVERTON, SURGEON, U.S.N.—Detached from the U.S.S. "Shenandoah," proceed home, and wait orders.

V. B. C. MEANS, ASSISTANT-SURGEON, U.S.N.—Detached from the U.S.S. "Shenandoah" and ordered to Receiving-Ship "Independence."

J. B. PARKER, SURGEON, U.S.N.—Detached from the U.S.S. "Swatara," proceed home, and wait orders.

JOSEPH SHAFER, ASSISTANT-SURGEON, U.S.N.—Detached from the U.S.S. "Swatara," proceed home, and wait orders.

PASSED ASSISTANT-SURGEON FRANCIS S. NASH, U.S.N.—Ordered to special duty, Smithsonian Institution, November 26, 1886.

MEDICAL-INSPECTOR A. C. RHOADES, U.S.N.—Ordered to special duty attending officers and families in New York City.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDED NOVEMBER 13, 1886.

AMES, R. P. M., PASSED ASSISTANT-SURGEON.—To proceed to Vineyard Haven, Massachusetts, as inspector, November 10, 1886.

URQUHART, F. M., PASSED ASSISTANT-SURGEON.—Granted leave of absence for seven days, November 8, 1886.

WASDIN, EUGENE, PASSED ASSISTANT-SURGEON.—Granted leave of absence for seven days, November 11, 1886.

MAGRUDER, G. M., ASSISTANT-SURGEON.—Relieved from duty at Norfolk, Virginia; assigned to duty at Marine Hospital, Chicago, Illinois, November 10, 1886.

PHILADELPHIA, DECEMBER 11, 1886.

ORIGINAL LECTURES.

CLINICAL LECTURE ON HEMORRHAGE FROM THE STOMACH.

Delivered at the Pennsylvania Hospital, Philadelphia, November 20, 1886,

BY J. M. DA COSTA, M.D., LL.D.,

Professor of Theory and Practice of Medicine and of Clinical Medicine in the Jefferson Medical College.

GENTLEMEN,—The first case I will present to you is that of the patient, about 40 years of age, occupying bed No. 6 in the Men's Medical Ward. He has been in the hospital for some time; his history prior to his admission is that he had been a hard drinker. He passed a tape-worm some nine years ago. He is usually a well man, except when suffering from the effects of drink. He says that last spring he stopped drinking to excess. About five months before admission into the ward (which was on the 3d of November) he vomited blood; he had never done so before. Since that time he has been subject to flatulent dyspepsia.

Upon inquiry he now tells us that he had been troubled with indigestion and had "belched up wind for a good while;" that is, the flatulent dyspepsia preceded the vomiting of blood, although it has been worse since this occurred; he also had been constipated before he vomited blood. His appetite had been poor, and he could not eat much, for a month or two before it came on; and for a couple of weeks he had had morning vomiting before breakfast. In other words, he presented the ordinary symptoms of gastric catarrh.

Shortly before coming here he had a second hemorrhage from the stomach. He was distributing hand-bills at the time, and had walked a good deal. He was taken ill upon the street, and it is stated in the notes that he fainted and fell upon the pavement. He estimates the amount of blood that he vomited to be between a pint and a quart. The blood was mainly dark-colored and clotted; some of it looked fresh. This was five days before admission, but he continued to vomit blood even after he came under treatment. He was brought here as a case of gastric ulcer.

It was the second attack for which he applied for relief. From the time of the previous one, five months before admission, he had been dyspeptic up to the second attack, which occurred five days before admission, and which was so severe as to cause him to faint and fall in the street. Subsequently he vomited a little blood every day until he came in, and indeed the bleeding did not stop until the second day after admission. Now that we have a clear history of his hæmatemesis, let us inquire more fully into his dyspeptic symptoms. He states that the vomiting comes on usually a short time after eating, but it may come on at irregular times. He has had very little pain in his stomach; he only complains of a little "wind-pain" at times. He appears to have a great dread of solid food and avoids it; he declares that if he ate it "it would kill him." Since admission he has been on liquid diet, but he says that previously he had noticed that he had considerable pain after eating solids. His bowels are almost always constipated. He has no cough. He is very anæmic-looking. His appetite, he says, remains good. After the first day, when he was vomiting dark blood four or five times daily, the discharges from the bowels were little except blood. He has considerable thirst; his mouth and throat are dry.

Now, gentlemen, upon proceeding to examine our patient, you will notice, first, that he is strikingly anæmic. Look at his hands, his conjunctivæ, his tongue! His tongue is pale in spite of a furry coat upon it. He has no disease of the lungs or of the heart; in truth, he has a very well developed chest. There is a systolic basic intracardiac murmur to the left of the sternum, due to the condition of his blood. He has no sponginess of the gums, and no blue line upon them. There is no epigastric soreness, and no enlargement of the spleen. The area of liver-dulness is small, barely extending to the margin of the ribs, and there is no dropsy. I cannot detect any epigastric tumor; but he has a very large rectus muscle upon the right side which might be mistaken for one. He has no pain or tenderness in the back. The liver, as demonstrated by percussion, does not extend upward; it is not displaced, although it barely reaches the costal border.

What is the matter with this man? I

have told you that he was supposed to have had a gastric ulcer. Now, has he a gastric ulcer or not? We come now to a point of much interest, which I will briefly discuss. Here is a man who, most undoubtedly, has had hemorrhages from the stomach, not only one, but a series of them, sufficiently severe to cause him to faint in the street and afterwards to lead him to the hospital, and sufficient to cause profound anæmia. We have also the testimony of those who saw him vomit after admission, and the evidence of the tarry discharges from the bowels. I repeat the question, Has he gastric ulcer or not?

This leads to a discussion of the causes of hemorrhage from the stomach.

Hemorrhage from the stomach is most frequently due, in cases of organic disease, to ulcer or cancer of the organ; where organic disease is not present, it is most often caused by changes in the blood, as, for instance, those which attend purpura and scurvy. Again, the hemorrhage may be due to venous congestion of the stomach, the result of disease of the liver or the spleen, as in some cases of malaria, or accompanying interstitial hepatitis. I might also mention the possibility of hemorrhage from the stomach as a symptom of some acute disease, such as yellow fever, or hemorrhagic malarial and other forms of malarial fever; but these will not enter into our discussion of the case, since he has not a fever-temperature. Casting these acute febrile hemorrhages out of consideration, as excluded by the temperature-record of the patient, which I find is rather below than above the normal, let us take up the other causes for discussion.

Let me state here that the urine has been repeatedly examined for albumen and sugar with a negative result, which is an additional reason—the absence of albumen, at least—for excluding hemorrhagic malarial fever. We may also set aside purpura and scorbutus, since the other essential features are wanting. I may also exclude disease of the spleen, a cause of hæmatemesis much more frequent than generally recognized, by the results of our physical examination.

Taking up organic diseases of the stomach, we ask first, Is it cancer? The absence of severe pains, the irregularity of the vomiting, and the non-existence of a tumor and decided tenderness in the epigastric region, lead me to reject the hypothesis of its being a case of cancer of the stomach.

By the process of exclusion we have now been reduced to two diseases. Has this man ulcer of the stomach? Or has he a disease of a neighboring organ, causing chronic congestion of the gastric mucous membrane and favoring the occurrence of rupture of the smaller vessels? Is it a case of disorder of the stomach with dyspeptic symptoms, due to disease of the liver? In favor of gastric ulcer—and what has given rise in this case to a belief in the existence of a gastric ulcer—is the free hemorrhage. His age is also in favor of this view, and his sex does not oppose it; although it would be stronger as a supposition in the case of a woman than of a man. The pain and gastric disorder are also in its favor. Still, I must pronounce against it, because there is no evidence of local soreness: no spots of tenderness upon pressure are found either in front or back. These are the rule in gastric ulcer. But what is more significant is this: he has no pain whatever, or very slight pain, immediately after taking food. From his very vague answers to my questions upon this point, you could see that the pain certainly is not severe. Even a drink of water would give pain in gastric ulcer at some time or other. He is free from pain while taking soft food; he abstains from solid food because of the flatulence and weak digestion, and not because of the pain. Therefore, from the absence of localized tenderness and the absence of pain after eating, I conclude that it is not a case of gastric ulcer. I admit that there are cases of gastric ulcer which are latent; but the features of the case do not warrant this explanation, and the history decidedly opposes it.

What, then, is the matter with this man? I have already indirectly answered this question. It is a case of hepatitis due to alcohol; and this hepatitis has interfered with the circulation in the gastric mucous membrane, and caused congestion and passive hemorrhage. The persistent indigestion is in favor of this view, and the character of the hemorrhage is in accord with this supposition. The only thing against it is the absence of dropsy. I can account for it only on the grounds that the portal congestion has been relieved by the bleeding, or that possibly the malady has not reached the stage of dropsy.

As his stomach has recovered to some extent, we may direct our attention to the condition of the liver, which is plainly that of cirrhosis caused by alcohol. He shall have bichloride of mercury (gr. $\frac{1}{40}$ thrice daily) and a restricted liquid diet, supplemented, if necessary, by rectal alimentation with peptonized broths or pancreatinized milk. The mercury is given with the view of its effect upon the chronic process of inflammation and increase of connective tissue which is constantly going on in the interior of this man's liver. I would also like to give him iron, to improve his anæmia, and will probably do so later; but I prefer not to order it now, on account of the existing catarrh, and irritability of the stomach.

ORIGINAL COMMUNICATIONS.

A CASE OF PERITONITIS IN ENTERIC FEVER, TERMINATING IN RECOVERY.*

BY J. C. WILSON, M.D.,

Physician to the Hospital of the Jefferson Medical College, etc.

THE following case, very recently under observation, is brought to your attention for two reasons. First, because, as illustrating the fortunate termination of general peritonitis occurring as a complication, or, rather, as a sequel, of enteric fever, it is sufficiently rare to be of interest. Secondly, because it serves as the occasion for some remarks upon the pathology of this complication and for the discussion of measures of treatment which in the graver cases may hereafter be the means of occasionally saving life.

Agnes M., 12 years of age, a school-girl, was taken ill rather suddenly, with headache, dizziness, and inability to take food, August 22, 1886. She continued to be about, however, until the 26th, when I saw her for the first time. The patient is a puny child, lean, and deaf in consequence of suppurative otitis occurring in the course of severe scarlet fever some years ago. Her mother is the care-taker of a large house used for office purposes. The nursing was not in all respects satisfactory, but my directions were intelligently and faithfully carried out, and there is no reason to believe that any error in the mother's management of the case was operative in bringing about the intestinal complication.

The illness speedily showed itself to be well-characterized, mild enteric fever. The tongue was coated with a whitish-yellow fur; it was red at the tip and edges, and remained so throughout. She had no appetite, and very moderate thirst. The abdomen was slightly distended, tender in the right iliac fossa and around the navel. The bowels were at first confined, later rather loose, although at no time did the stools exceed four in the twenty-four hours. There was moderate enlargement of the spleen. The heart's action was frequent; pulse 100 to 120,—after the first week usually dicrotic. She had a slight cough, and coarse mucous râles were at times observed. The nose bled a few drops on three occasions. The headache ceased on the eighth day, and from that time till defervescence there was slight delirium alternating with somnolence, from which the patient could be easily aroused, only, however, to fall again quickly into the same drowsy state. Upon the sixth day the eruption made its appearance. The rose-spots were few in number, and ceased to appear about the sixteenth day. The urine was of rather small amount, and on repeated examination free from albumen.

The febrile movement was moderate: the highest temperature observed was 103° F. on the evening of the sixth day. With this exception, no temperature exceeding 102.5° F. was recorded. The evening range was, with these exceptions, between 101.5° and 102° F.

The treatment consisted of small doses of carbolic acid and tincture of iodine. Upon the fourth day of the illness, and again upon the sixth, two-grain doses of calomel were administered.

The diet was restricted to liquids, and the patient was not allowed to rise from the bed for any purpose whatever. From the middle of the second week a teaspoonful of whiskey was given in milk every sixth hour.

Defervescence began about the middle of the third week. On the seventeenth day the morning temperature was normal; on the twentieth, the evening temperature was 99.4° F.; and on the twenty-first, defervescence was complete. The patient was now quite weak, but bright, and clamorous for "something to eat." No solid food was permitted, however, until the morning of September 13, the twenty-third day after the beginning of the sickness. A soft-boiled egg, into which was stirred a little finely-crumbled stale bread, was given about 11 A.M. Half an hour later the patient complained of severe pain in the abdomen, and had a chill, which was followed by vomiting. At 7 P.M. I saw her. The vomiting had ceased, but there was intense nausea, with thirst; the tongue was dry; the belly tense and tender; the pulse small, tense, and 140 in the minute; decubi-

* Read at a Clinical Meeting of the Philadelphia County Medical Society, November 17, 1886.

tus dorsal, with knees drawn up; the axillary temperature was 104.5° F. There were not at this time, nor could I find upon careful questioning that there had been, any signs of collapse after the chill. Two hours later Dr. W. W. Keen saw her with me. The temperature had fallen a degree, and the pulse to 120. Upon palpation the whole belly was exquisitely tender, but we both thought that the focus of tenderness was in the right iliac fossa. The pain was general over the abdomen.

The treatment consisted of half a grain of opium by suppository every six hours, and forty drops of paregoric every two hours. The belly was smeared with equal parts of sweet oil and turpentine and covered with a light poultice. A little iced whiskey-and-water from time to time was allowed, but nothing in the way of food was permitted during the night. Early the following morning Dr. Keen saw her again. The general symptoms remained the same. The temperature had, however, fallen to 101° F., and the pulse was fuller, though still 120. The full opium-treatment was continued, so also was the poultice. Light liquid food was prescribed and retained. From this time catheterization was necessary for several days. The urine contained a trace of albumen and a few hyaline casts. Nine days later defervescence, which was gradual, was complete. The belly was still swollen, but less tender. The greatest tenderness was on the right side, in front of the border of the ilium; here there was also local dulness upon percussion.

At the expiration of three weeks recovery seemed to be complete; yet on two occasions within the last month a larger meal than usual has been followed by fever, lasting two or three days, and by tenderness in the right iliac fossa. For the past two weeks the patient has been apparently in her usual health.

Murchison enumerates the following lesions as causing the complication of peritonitis in enteric fever:

Softened infarctions in the spleen; the bursting into the peritoneum of a softened mesentery gland; an abscess in the wall of the urinary bladder or in the ovary or in the sheath of the rectus muscle bursting into the peritoneal cavity; ulceration of the gall-bladder; the propagation by continuity of inflammation from the mucous to the peritoneal coat of the intestine without perforation; and, finally, and by far the most frequently, perforating ulceration of the bowel.

When recovery takes place it is impossible to say with certainty what the lesion has been, but a consideration of knowledge derived from clinical and from post-mortem examinations warrants us in dividing cases of peritonitis occurring in typhoid fever into two perfectly well characterized groups. The case which I have reported well illustrates the first group; and cases with suddenly-occurring collapse, evidences of peritonitis not followed by improvement and ending fatally in thirty-six or forty-eight hours, illustrate the second group. Between these two groups there is the widest difference. In the systematic works on typhoid fever a limited number of cases of recovery from peritonitis in the course of the disease are recorded. At the same time this complication is of the most serious gravity, and likely in the larger proportion of cases to terminate fatally. The anatomical condition in those cases that recover is fairly well known, partly from the post-mortem examination of cases which have died at a later period from other causes, and partly from the clinical history of cases in which a circumscribed abscess has formed and has been evacuated (either spontaneously or by operation) some weeks or months later.

The most favorable type of the first group of cases may be said to be those in which there is a local peritoneal inflammation, the result of extension from the mucous to the serous surface, without direct penetrating lesion of the wall of the gut. Here, under favorable circumstances, the inflamed patch of intestine becomes adherent by lymph to an adjacent coil of intestine or to other structures, and perforation is averted by the patch which is thus put upon the weakened bowel. There are numerous post-mortem records which show that even where sloughing has led to an actual solution of continuity of the wall of the gut, such adhesions have taken place before there has been any considerable extravasation of the intestinal contents into the peritoneal cavity, and although the patient may present the appearances of general peritonitis, as in the case reported, nevertheless recovery takes place.

From the most favorable instances of this kind there must be by gradations less and less favorable pathological conditions until the case becomes one of serious gravity in consequence of actual extravasation of fecal matter and the formation of a local peritonitis in which, however, the conditions are not such as to make a fatal result unavoidable. From this point, however, to the class of cases which I have designated

as forming the second group the transition is abrupt. Typical cases of this kind are occasionally encountered clinically and in the post-mortem room. As a consequence of the direct death of a portion of the ulcerated wall of the gut, the floor of the ulcer has absolutely dropped out, allowing the extravasation of intestinal contents. A similar condition of things may result from the laceration of an ulcer which has reached down to or through the muscular coat, and has remaining a very slight support at its base. Here, as the result of active peristalsis, however induced, the wall of the ulcer gives way. The bases of deep ulcers, even when not in a condition of sphacelus, are, as the result of inflammatory infiltration, inelastic, brittle, readily liable to undergo laceration. This accident causes the irregular linear perforations occasionally seen. I do not stop to speak of the rupture of large abscesses, or of abscesses in the wall of the gall-bladder, or of rupture of the spleen. These catastrophes give rise to the large extravasation of foreign matters into the peritoneal cavity.

What have we in this second group of cases? Not only an entirely different pathological condition, but also a different clinical picture from that presented by the first group. The evidences of active peritoneal inflammation, chill with high temperature, vomiting, and other well-recognized symptoms, may be absent, the condition manifesting itself simply by the occurrence of profound and intractable collapse. Indeed, sudden collapse is the striking feature in the picture presented by the second group of cases. This collapse in many instances points to such a shock to the nervous system as will terminate fatally in the course of a few hours: such a shock as would be produced by a penetrating gunshot-wound of the abdomen.

This leads me to the point which I have had in mind in bringing the report of this case before you. I take it for granted that almost every case of free extravasation of intestinal contents, however small in amount, into the peritoneal cavity terminates fatally. There is little reason to believe that any case of this kind recovers. It is important to note that the cases of peritonitis in enteric fever in which recovery is possible can be clinically distinguished from those which will terminate rapidly in death. The clinical picture of the two conditions is almost as distinct as are the pathological lesions. Where there is extravasation of the intestinal contents into the peritoneal cavity, the collapse is like that caused by the escape of an amount of foreign matter the result of a perforating gunshot-wound of the intestine. The proposition which I submit for discussion arises directly from a consideration of the matter in this way. Until within a few years, no surgeon realized the possibility of treating cases of gunshot-injury of the abdomen with perforation of the intestine and the escape of blood and fecal matter by the operation of laparotomy, washing out the peritoneal cavity, excising bruised and lacerated portions of the intestine and bringing the parts together by suture. Yet this is now the recognized procedure in such cases, and has been of late practised in many instances with success in cases that under the old plan of opium and expectancy would have inevitably perished.

Are we ready to adopt the same measures in perforation of the intestine with similar conditions as regards the peritoneal cavity and a like helplessness as regards cure by opium and expectancy in our cases of enteric fever? Recognizing the two groups of cases I have described, and being, as we are, able to refer almost all cases to either one or the other of them within a few hours of the development of the symptoms, are we prepared to decide —and to do so with the necessary promptness—upon those operative procedures by which alone in the second group the life of the patient may be saved?

Granted that the chances of a successful issue are heavily against you; that the patient is in the midst or at the end of a long sickness; that his tissues are in the worst state to stand the injuries of the surgeon's knife; that the lesions of the gut may be very extensive; that the vital forces are at the lowest ebb. No one yet has hesitated to perform tracheotomy in the laryngeal complications of enteric fever, which require it to save life, for these reasons. The operative treatment of purulent peritonitis has been performed many times successfully by the gynæcologist in conditions scarcely less unpromising. In point of fact, the objections that may be urged against laparotomy in intestinal perforation in enteric fever are no more forcible than those which would have been made use of at first against the same operation in gunshot-wounds of the abdomen.

Unfortunately, this question is not to be settled by experiments upon animals. The investigation must be made upon the human subject. The courage to perform it will come of the knowledge that the only alternative is the patient's death. Certainly *a priori* reasoning will not help us. We must not, however, overlook the fact that while a few cases of perforation occur in the second week of the disease, while the infective process has yet some time to run, a far larger proportion take place in the period of convalescence, when the condition of the patient, except for a deep ulceration often single, is tending towards recovery.

DESTRUCTION OF NIGHT-SOIL AND GARBAGE BY FIRE.*

BY GEORGE BAIRD, M.D.,

Wheeling, West Virginia.

TO provide an efficient way of disposing of the night-soil and garbage of cities and towns has been a subject of much thought on the part of sanitarians for many years. Convinced that special contagious and infectious diseases are propagated, and that many diseases are disseminated, by pollution of the air and drinking-water, their energies have been directed to the providing of a plan for thoroughly protecting cities from the dangers resulting therefrom. With others, our health authorities for several years have been trying to devise a plan for so disposing of these substances as to protect our own people as well as the citizens of Bellaire, Ohio.

To make this understood, and at the same time furnish an example of the folly of claiming, as some do, that a running stream of water will purify itself in a few score feet, let us here give the relative situation of the two cities.

Wheeling is located on a narrow plain on the east side of the Ohio River, in West Virginia. This plain is bounded on the east by high hills, and on the west by the river. The city extends along the river for five miles. Opposite the extreme southern limit of Wheeling, on the west side of the river, is the northern limit of Bellaire, and that city extends for two miles down the river. About one-half mile from the north end of Bellaire her waterworks are located on the river-bank, and the supply-pipe extends out into the river one hundred feet from the shore at low-water mark. The current in the river is deflected by a bend, commencing a short distance above the southern line of our city, towards the Ohio or Bellaire shore, and substances thrown into the river at Forty-eighth Street—our last street south—are carried over towards the Bellaire side. Especially is this the case during low water in summer.

By one of our ordinances, night-soil men are required to haul all night-soil to Forty-eighth Street, and, after driving as far as possible out into the river, empty the contents of their carts and barrels. The garbage-collectors also empty their garbage into the river at various places along the river-front. From these two practices it results that the drinking-water of Bellaire is abominably polluted, and that city is made a hotbed of disease. In fact, it has the reputation of being the most unhealthy place in Eastern Ohio. For how much of this our city is responsible it is fearful to think; but that a great part of it is due to our way of disposing of the city's refuse matters there can be no doubt.

The furnishing of night-soil to gardeners as a fertilizer has been tried; also the giving of the garbage to dairymen. These plans have resulted in polluted wells and diseased cows. The loading of boats and towing them down below Bellaire has been suggested, and created such great dissatisfaction in towns situated farther down the river that it had to be abandoned.

Determined to relieve our own city of some of the causes of preventable diseases, which were too prevalent among our people, and at the same time relieve her of the injustice she was almost daily doing to her neighbor below, our health department last spring made a series of experiments in the destruction of night-soil and garbage by fire, and we claim that at last we have secured a means of entirely destroying these substances and their power to do evil. The experiments had to be made between late bedtime and morning, as a great prejudice existed in the people's minds to having night-soil burned near their residences.

Two facts about the burning of night-soil specially impressed us: one was that the odor was not such a one as we all

* Read before the American Public Health Association at Toronto, Canada, October 5, 1886.

thought it would be,—it was something akin to the smell of burnt leather; another was the intense heat required to burn it.

The first experiments were made in a bench of five retorts at our city gas-works. The night-soil was mixed with fifty per cent. of fine slack, and three retorts were charged with this mixture. The other two retorts were charged with a mixture of equal parts of night-soil and "breeze,"—fine coke siftings. The reason for adding these substances was to divide the night-soil and provide an inflammable substance within its mass to assist in burning it. The retorts were charged at 11 P.M., and it was not until seven o'clock next morning that the contents were reduced to a fine odorless powder. On another occasion, three retorts were charged with a mixture of twenty per cent. of fine coke and eighty per cent. of night-soil, and two with night-soil alone. The result was the same as before with the mixed charge: nine hours were required to burn the unmixed.

Convinced that the retorts were not the proper things for successful combustion of this substance, owing to the want of a free supply of oxygen, it was determined to find a furnace with a strong draught, capable of producing a greater heat than could be obtained in the retorts.

Fortunately, a change made shortly before this time in the process of making nails in our mills provided what was desired. The change from the iron to the steel nail had dispensed with the boiling-furnace, and on application being made to Mr. Reister, manager of one of our iron-mills, for the use of one of these furnaces, the privilege was cheerfully granted, and by his order it was prepared for the third experiment. After twenty-four hours' heating, a charge of twenty per cent. fine slack and eighty per cent. night-soil was made, and it was burned in one hour and twenty minutes. A second charge of "breeze" and night-soil was made, and it was burned in little more than one hour. A third charge of night-soil alone was made, and it was burned in about the same time as the first charge.

Another change in the mills arising from the introduction of the steel nail was the building of the Smith gas-furnace for the heating of the steel slabs preparatory to being rolled into nail-plate. This furnace is much larger than the boiling-furnace, and capable of generating a more intense heat than any furnace known. Application was made for the use of one of these furnaces, and it was kindly granted. The result of this experiment was as follows: a barrel of ordinary garbage, or slop, was burned in four minutes; a barrel of butcher's offal (bones and animal matter) was burned in seven minutes; a barrel of fluid night-soil (thrown into the furnace with buckets) was almost instantly evaporated; and a barrel of solid fæces was burned in fifteen minutes.

Convinced that this furnace had every requisite for fulfilling the design of destroying night-soil and garbage, the Committee on Health reported the result of the above experiments to Council, and recommended the making of a contract with Mr. Smith for the building of a furnace capable of destroying daily sixty tons of night-soil and garbage, and also for burning dead animals of all kinds which might die within the city limits, as well as the refuse matter from our butcher-shops. This furnace is to be constructed for using natural gas as a fuel. Of its success there can be no doubt.

The heating capacity of natural gas is more than four times as great as that of coal. With coal, we destroyed night-soil in a boiling-furnace in one and one-quarter hours; with artificial gas, generated from fine slack, we burned it in fifteen minutes; with natural gas we can do still better. Notwithstanding the great difficulty in destroying this substance by fire, there is in the use of natural gas as a fuel more risk of destroying the furnace than of not entirely consuming the night-soil.

It must not be understood that this furnace can only be used in cities and towns where natural gas has been introduced as a fuel. Mr. Smith has gas-generators built with his furnaces in cities where there is no natural gas, and claims that he can "produce a heat of greater intensity and with more economy than by any other method or from any other source outside of natural gas, and as cheap as natural gas can be supplied by a private company."

The fine coal, or slack, is not the only substance from which artificial gas can be generated. Tan-bark, peat, and many other substances can be used. It is much regretted by us that this furnace will not be completed before the meeting of the Public Health Association in October. It would be a great satisfaction to be able to

report its successful workings to this body. Mr. Smith's faith in its success is so strong that he has agreed with our city to ask no compensation until by a series of successful experiments he has shown its capacity to destroy all substances proper to be offered as tests of its powers.

Should any member of the Public Health Association feel sufficient interest in the subject of the destruction of city refuse by fire to wish to obtain more information in reference to the Smith furnace, if he will address M. V. Smith, M. E. Bissell's Block, Pittsburg, Pennsylvania, he will be furnished full details. Mr. Smith being the inventor and patentee of the furnace, we do not feel at liberty to attempt a description of his furnace, and have only tried to furnish proof of its capacity to solve a long-tried problem in the government of our cities and large towns.

ECHINOCOCCUS OF THE LIVER.

BY CHARLES BAUER, M.D.,

Late Chief Assistant Physician to the Out-Patient Department of the Hospital of the Jefferson Medical College.

SO few cases of hydatids of the liver are reported in our journals that it may not be uninteresting to report one which came under my observation while physician to the Out-Patient Department of the Hospital of the Jefferson Medical College.

The patient, I. Z., a German, came to the hospital November 23, 1885, and gave the following history:

He was 35 years old, married, a shoemaker by occupation, and had come to this country in 1881. He had been and was then in good general health, with no history of inherited or specific disease. Three months later his wife noticed a slight prominence upon the right side of his chest, below the nipple. This gradually increased in size, causing no pain, for nearly a year and a half, when he became jaundiced and experienced a feeling of weight and dragging in the right hypochondrium, shortness of breath, and slight cough. Consulting a physician, he was told that he had enlargement of the liver. The treatment instituted had no effect upon the steadily increasing tumor; his appetite failed, he began to lose flesh, and he became progressively anæmic.

Examination now revealed an enormously distended abdomen, the liver-dulness extending from the second rib to a little below the umbilicus, and transversely to within half an inch of anterior border of the spleen. The outline of the mass was irregular, and the lower portion nodulated. Abdominal veins were enlarged (caput Medusæ). There was œdema of legs extending to the thighs, with pitting on pressure. Spleen enlarged. Both sounds of the heart were distinct, but the first was short and valvular and lacking in power. The area of cardiac dulness was not increased.

The patient looked pale. He stated that he had lost considerable flesh. His appetite at the time was fair, and digestion tolerably good. He had never vomited nor passed blood by stool. After exertion he had much dyspnœa, and he also had a slight cough.

Urine was of sp. gr. 1020, rather dark, feebly acid, and contained albumen and casts. These, examined under the microscope, were found to take the amyloid stain.

Notwithstanding the character of the tube-casts and the enlargement of spleen, usually considered characteristic of amyloid disease, and in spite of the fact that the tumor appeared irregular and nodulated and that the man had lost considerable flesh (conditions that would point to carcinoma), I was led to make the diagnosis of hydatid disease for the following reasons: the patient's age; the almost painless growth of the tumor; the comparative absence of constitutional disturbance during eighteen months from the time it was first observed; the duration of the case, and from a personal observation of the man's surroundings, which were of the most humble character. He with his family occupied two rooms, one used as a bedroom, the other serving as kitchen, sitting- and dining-room, and workshop. Like most poor people, they kept dogs and cats, which, as I afterwards ascertained, often shared the bed with them. Food and water were left about the room in a most careless manner.

The patient was ordered thirty-drop doses of the syrup of the iodide of iron thrice daily, which seemed to improve his condition so markedly that the correctness of my diagnosis was much questioned. Four months later I was called to his house (he had taken no medicine for six weeks). He complained of severe pain in his right side; his legs were greatly swollen; his breathing was difficult; the heart's action disturbed and feeble; and there was anorexia and scanty micturition. His temperature was 99.4°. I gave him a hypodermic injection of one-fourth of a grain of morphine with $\frac{1}{120}$ of atropine, to relieve pain, and ordered him infusion of

digitalis with acetate of potassium in elixir of cinchona. Evening doses of one-fourth grain of morphine were necessary to relieve pain and secure rest. In about five days (during which his temperature was normal) he was so far better that I desired him to come to the hospital again for further treatment. At his next visit I determined to puncture the tumor with a long hypodermic needle, to obtain, if possible, some of the fluid found in hydatid cysts. Fortunately, Drs. Allis and Longstreth were present. The characteristic "purring tremor" was distinctly elicited by palpation. Some fluid was also obtained, but failed to show any hooklets or tæniæ under the microscope. The puncture gave rise to considerable pain, and the patient remained in the hospital from April 26 until May 4, 1886, during which time several unsuccessful attempts to aspirate the cyst were made.

A few days after leaving the hospital he sent for me again: he was then suffering with localized peritonitis, and I continued to attend him until his death from exhaustion, which occurred June 25 of this year, nearly four years after the tumor was first noticed.

Pathological Report.—The post-mortem examination was made by Dr. Rively about twenty-four hours after death. Cadaveric rigidity was present; emaciation not very marked; œdema of lower extremities with ascites was observed. On section we found but little fat. The abdominal veins seemed dilated.

The right lung presented old adhesions at the apex posteriorly. The adjacent pleural surfaces of the left lung were firmly adherent. The right lung was much compressed by the enlarged liver extending up to the second rib.

The pericardium contained about one ounce of fluid. The left side of heart fully contracted. There was fluid blood and a recent clot in right ventricle. The valves seemed normal.

Spleen much enlarged, weighing thirteen ounces. Kidneys, with the exception that the left seemed somewhat larger than usual, exhibited nothing abnormal.

The liver extended to second rib on the right side; its upper portion smooth, but its lower nodulated. The upper part of the right side was adherent posteriorly, and also adherent to the diaphragm. The gall-bladder contained fluid.

From the upper surface of the right lobe of the liver the large cyst projected. The weight of the liver before rupture of the cyst was fifteen pounds six ounces. Upon evacuation, the cyst was found to contain one hundred and forty-eight ounces of a clear, opalescent, slightly alkaline fluid, of the specific gravity of 1008, with no trace of albumen. Within the great cyst was a small one about the size of a marble. Upon submitting the fluid to microscopical examination we found it to contain the tænia echinococcus and hooklets in large numbers. We also examined microscopically a section taken from the substance of the liver, and found the fibrous tissue between the lobules thickened and increased. This increase of fibrous tissue explains the nodulated condition of the liver, a certain amount of interstitial hepatitis having taken place.

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THE USE OF DIGITALIS IN COMBINATION WITH BROMIDES IN EPILEPSY.

BY GEORGE A. WIGGINS, M.D., L.M.

COGNIZANT as we are of the enormous extent of the literature already in existence, almost the first impulse would be to say that the subject of epilepsy had been exhausted; but, on the contrary, it seems as if the more we read of it the more interesting it becomes.

Herewith I submit for consideration the history of two cases and their treatment, which I think are sufficiently interesting to be placed upon record.

Case I.—Mrs. W., Dublin, Ireland, aged 38 years, a widow, the mother of five children, the youngest of whom was nine years of age. Patient was anæmic and emaciated, though formerly robust and healthy. Family history did not indicate epilepsy, insanity, or any other nervous disease, and the suspicion of syphilitic infection was entirely out of the question. Some months after the birth of her youngest child she was seized with epileptic fits, which were very severe and of frequent occurrence. She was attended by four eminent physicians of the city of Dublin with indifferent success, excepting one, who succeeded in checking their frequent occurrence; but still they occurred in decreased numbers until December, 1883.

I first saw her at this time, in a genuine convulsion, after she had fallen down-stairs

and defaced her countenance to a great extent; her tongue was greatly mangled, and "was much inflamed and swollen for some days after." The mouth was foaming vigorously, the face was very much convulsed and contorted, and the limbs worked violently. Consciousness was delayed for a lengthened period. When consciousness did return, I gave her fifteen grains each of potass. brom. and hydrate of chloral, which seemed to have no beneficial effect, the patient being extremely restless and nervous all the night.

Next morning I gave her the following prescription:

℞ Potassii iodidi, ʒj;
Potassii bromidi, ʒj;
Ammonii bromidi, ʒiiss;
Potassii bicarbonatis, ℈ij;
Spiritus chloroformi, fʒij;
Infusi digitalis, q. s. ad fʒvj. M.

Fiat mist. Sig.—Take two teaspoonfuls morning and noon, and three at bedtime.

After one week she took only one teaspoonful morning and noon, and three at bedtime.

The patient recovered completely, never having another fit; but in the beginning of her treatment she had some tendency to have them by the occurrence of the aura in one or other of her arms. These, however, were presumably prevented by tightly bandaging the arm with a handkerchief when this valuable precursor manifested itself.

Case II.—Master T., a boy of 15 years, from Plainfield, New Jersey. He was so large, plethoric, and healthy-looking that he seemed developed altogether out of proportion to his age. As in the first case, the family history as far as I could ascertain was altogether free from any diathetic taint. The mother told me she was only trying my professional skill as an experiment; human aid in the case was impossible, she thought, as already she had engaged the services of several physicians and numerous quacks, from the Indian medicine-man down to the faith-cure. The boy had an enormous appetite, and, having an indulgent father and mother, he was allowed to eat very irregularly, and in fact gluttonously. (This, by the way, was always a very good platform for the quacks, for they invariably cried "Worms!" when they heard of his eating capacity.) His bowels were costive, as might be expected from his gormandizing. The fits were congenital, and had occurred very frequently in this case; so much so that the mother could hardly ever trust him out of her supervision. She told me that he had, as the rule, from three to six fits daily, and occasionally as many as a dozen in the twenty-four hours.

I put him on the same prescription as the first case, with the following as a tonic laxative for his bowels:

℞ Extractæ cascaræ sagradæ fl., fʒiij;
Tincturæ nucis vomicæ, fʒiss;
Aquæ, q. s. ad fʒij. M.

Fiat mist. Sig.—Take one teaspoonful after each meal.

The boy got perfectly well, his recovery dating from the second day of his taking the medicine, he having had one the day before.

In conclusion, here seem to be two cases of opposite conditions,—the one anæmic, the other plethoric.

The question is naturally asked, "To what was the cure due?" "Undoubtedly," some might say, "to Brown-Séquard's prescription,—which it really is, except that the infusion of digitalis is substituted for infusion of columbo." To this I must answer "No," as I happened to ask Dr. Nicolls afterwards what his treatment had been in the first case, and he told me it was Brown-Séquard's mixture exactly. In the second case bromides had been prescribed *ad libitum*, but the number of fits remained the same except when the drug was pushed to its full physiological action.

What I particularly wish to have noticed is the treatment of epilepsy with digitalis. This treatment is not original, as Sir Dominic Corrigan, Bart., used it in Dublin with very great success, although he preferred the powder. The effect produced on delirium tremens by large doses of digitalis, demonstrated by Jones, is truly wonderful, and proves it to be a most potent sedative in some conditions of the nervous system.

Probably digitalis, in conjunction with Brown-Séquard's prescription, is worthy of careful consideration and trial in a disease which sometimes requires all our resources to control.

Surgical Institute, Philadelphia.

Death due to Hemorrhages caused by Foreign Body in the Bronchi.—Dr. Axel Key reports (*Hygeia*) the case of a man, 36 years of age, who died with pulmonary hemorrhage, to which he had been subject for seventeen years. Upon section, six pine leaves, stiff and with sharp points, were found projecting from the mucous membrane of a dilatation of a bronchus in the left lung. The embedding of the leaves in the lung had led, in the opinion of Dr. Key, to the hemorrhages and fatal result.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

SERVICE OF WILLIAM OSLER, M.D.,

Professor of Clinical Medicine.

(Reported by WILLIAM H. MORRISON, M.D.)

CLINICAL REMARKS UPON A CASE OF ANEURISM OF THE ARCH OF THE AORTA.

GENTLEMEN,—The case which I shall demonstrate this morning is one which I have just seen for the first time, but it is one in which the diagnosis can be made upon a very superficial inspection. For the past twenty years this man has been working as a cabinet-maker; previously he had been a shoemaker. He has never had any sickness, with the exception of chills and fever, which he had when twenty-one years old. He has never had rheumatism or syphilis. He noticed the first signs of the present affection six years ago, when he had a trouble with the heart which he describes as a feeling of beating and jarring when he lay down. He did not have shortness of breath, and was able to continue his work. About two years ago he had a sharp pain to the right of the sternum. His principal complaints now are shortness of breath and nervousness, with occasional pain over the upper part of the right chest.

He presents a healthy appearance, and is young-looking for his age,—46. The vessels of the face, especially the veins, swell rapidly on exertion. If he walks a short distance the face flushes. The pupils are of medium size and equal. There is no difference in the color of the sides of the face. The vessels of the neck are not specially full, although the external jugular veins are evident; there is no special throbbing in the neck; there is a little increased fulness below the right sterno-mastoid muscle. There are several distinct superficial veins crossing the sterno-clavicular articulation.

Inspection shows a fairly well developed thorax; expansion slight and chiefly in the lower costal region. There is marked dilatation of the venules about the costal margin, particularly at the ensiform cartilage. A few of these venules are noticeable on each side of the sternum. The apex-beat of the heart is visible about one inch below and two inches outside of the line of the nipple; the beat is forcible; the cardiac impulse is also noticed in the angle between the costal margin and the ensiform cartilage. What attracts particular attention is a hemispherical prominence on the right side of the chest, immediately below the first rib.

Upon careful inspection of this a slight heaving pulsation is seen, but it is not very noticeable. It is difficult to determine by inspection whether or not this pulsation is synchronous with that of the apex-beat.

Upon palpation, the pulsation is very distinct and expansile. In this manner I determine that its rhythm is systolic. There is no distinct interval between the cardiac impulse and the pulsation of the mass. The sensation communicated to the hand is that of a firm, solid body. The tumor evidently projects through the ribs and costal cartilage. Its limits can be accurately fixed by palpation; it extends from the first rib above to the third rib below. A portion of the third rib and its cartilage can be distinctly felt; the second cannot be felt. Laterally it extends to the right edge of the sternum, not involving the bone directly. Its outer limit can be fixed with great distinctness; its edge is very sharply defined. At present the swelling does not appear to be painful, although the patient states that there has been considerable tenderness at times. As I have said, there is communicated to the hand a distinct impulse, systolic in time. Following this is a diastolic shock, and with it a very slight tremor or thrill.

Upon percussion, there is dulness over the whole region of the tumor, and extending over the left half of the median portion of the sternum, but not involving the manubrium; its lower limit merges into the cardiac dulness.

Upon auscultation, there can be heard a very distinct long blowing sound or murmur occurring at the same time as the pulsation, and following it is the flapping second sound. As the heart is approached the systolic murmur becomes more distinct, and at the third left costal cartilage there is heard a second murmur, diastolic in time and very distinct in the mid-sternal region and towards the ensiform cartilage. As we have already noted, the apex-beat is very much dislocated from its normal position. It is felt in the sixth intercostal space, at least two inches outside of the nipple-line. Auscultation of the heart shows a systolic murmur heard best at the apex, but not

transmitted into the axilla. The pulse is quiet, at present 92 in the minute. Comparing the pulse in the two radial arteries, that in the left seems fuller and more distinct than that in the right. This is still more evident when the brachial arteries are compared. Auscultation of the lungs posteriorly shows no apparent difference in the respiratory murmur of the two sides. On attentive auscultation there can be heard in the right scapular region a murmur which is doubtless transmitted from the tumor.

The nature of this malady is evident. The man has an aneurism of the aorta. The diagnosis in this case is unusually easy: you cannot always with such positiveness assert that you are dealing with aneurism. When, however, there is a tumor projecting to the extent that this does, with this peculiar expansile pulsation, it is almost certainly an aneurism. If we divide the arch of the aorta into its three portions,—the ascending, transverse, and descending portions,—it will be found that in the majority of cases the aneurism springs from the ascending portion: that is, between the aortic orifice and a point a little to the right of the origin of the innominate artery. This is the position which the aneurism occupies in this case. The ascending portion of the vessel is most prone to atheroma; and this explains why it is that aneurism is so common in this situation. Aneurisms involving this part of the vessel project anteriorly and to the right, in the direction of least resistance. The vessel having more room to expand, we find here the largest aneurisms. The most important structures in contact with the ascending portion of the arch of the aorta are the pulmonary artery and superior vena cava; the latter is particularly liable to be pressed upon, but we rarely see such serious effects of pressure here as we do in aneurisms affecting the transverse or descending portions of the arch. In this instance the aneurism has eroded the second rib and caused its entire absorption. Separating the sac from the outside there is simply the skin, and numerous firm, hard coagula which line the sac and obviate to a certain extent the effects of the blood-pressure.

The chief symptoms from which the man now suffers are shortness of breath and occasional pain. At present the pain is not at all severe, but he states that a few months ago the pain and tenderness were excessive. This was due to the erosion of the ribs, and it is very marked when an aneurism projects still more posteriorly and erodes the vertebræ. After the bone has become absorbed and the aneurism is in contact with the skin, as in this instance, the pain may be materially diminished. Pressure upon the nerves in the neighborhood of the heart may produce attacks of agonizing pain resembling angina, and in many cases it passes down the arms and along the cervical nerves. The dyspnœa at present is not noticeable when he is quiet, but when he moves rapidly or goes up-stairs there is shortness of breath and cardiac distress. This is due in part, I think, to the existing valvular disease, as the loud diastolic murmur down the sternum indicates that the valves are not competent.

Curative treatment is almost out of the question in an internal aneurism when it has reached such a size as this one. Occasionally, by the introduction of horsehair or a large coil of copper wire, or by electrolysis, the contents of the sac have been solidified and cure has been effected. Such treatment, however, is, I think, out of the question where the tumor is already so near the surface.

The treatment of such a case resolves itself into a matter first of rest, secondly of diet, and thirdly of the administration of one or two medicines which have been found of service. Rest is unquestionably the most important element in the treatment of internal aneurism. The pulse, which is one hundred per minute while the patient is sitting up, will be reduced fifteen or twenty beats when he assumes the recumbent position. Any one can calculate the number of pulsations saved in twenty-four hours. The sac will thus be directly spared many thousands of pulsations. It is this that makes rest so important in the treatment of internal aneurisms. Rest will reduce the pressure within the sac to a greater extent than could possibly be done by any medicine or arterial sedative.

The next point is with reference to the diet. One of the most successful methods of treatment of aneurism ever employed is that by restriction of the diet. This was introduced by Valsalva, and modified by Tuffnell, of Dublin, who placed his patients upon a diet consisting of not more than eight ounces of solids and ten ounces of liquids in the twenty-four hours.

A couple of ounces of solid food with milk or tea were given in the morning, a larger quantity in the middle of the day, and a couple of ounces again in the evening. The restriction of fluids is particularly important. This unquestionably reduces the quantity of blood in circulation, and has an important bearing in diminishing the blood-pressure.

Of medicines, iodide of potassium is the only one which in my experience has proved at all efficacious in the treatment of aneurism. The relief is usually evident in two special directions,—relief of pain and reduction of the pulsations. Undoubtedly, under the use of iodide of potassium in fifteen-, twenty-, or thirty-grain doses three times a day, the pain is greatly relieved, and may disappear altogether. The pulsation becomes less forcible, and the sac may get much harder. The pulsation in this case has been greater than it is at present, and for some time he has been taking iodide of potassium in fifteen-grain doses.

There is an interesting etiological question in connection with this case. This man is a carpenter by occupation, and it has been noted that the workers in certain trades are particularly subject to arterial and cardiac affections. Carpenters are more liable to such diseases than are other artisans, with the exception perhaps of blacksmiths. In this instance the occupation may have had something to do with the production of the condition. The constant use of the arms brings a great strain upon the aorta, and may induce atheroma, which, in the great majority of cases, is the precursor of aneurism. Of other causes, syphilis is unquestionably the most frequent. There is no reason to think that this man has had syphilis. Rheumatism and gout also frequently attend arterial diseases, but in this case there is no history of such affections.

The prognosis is, of course, very grave. Cases of thoracic aneurism usually terminate within two years; but in the situation which this occupies, owing largely to the fact that no important structures are compressed, an aneurism may persist for many years and the patient enjoy a tolerably comfortable existence. Rupture into the pleura is a common mode of termination in these cases. The sac becomes thin, a little rent takes place, with effusion of blood and sudden death. Compression of the superior vena cava may lead to extreme congestion of the brain and to clotting in the sinuses, which proves fatal. Occasionally the aneurismal sac ruptures externally, and may bleed for some time before the fatal result takes place. I have seen an instance of large protruding aneurism in this region in which the patient wore with much relief a soft elastic strapping; but in this case the slightest pressure seems to worry him, and it would here do more harm than good.

CIRRHOSIS OF THE LIVER WITH FATTY DEGENERATION AND ENLARGEMENT OF THE ORGAN.

I wish briefly to refer to this liver, which was removed from a patient who died in the hospital the day before yesterday. The condensed notes of the case are as follows. T. E., a married woman, the wife of a saloon-keeper, was admitted to the hospital eight days ago, with dropsy and jaundice. She had used both whiskey and beer to excess. She stated that her present illness was of only three weeks' duration, and that it had begun with swelling of the abdomen and feet. She also complained of a cough, which had been present for a couple of months. Examination on admission showed the patient to be weak and anæmic; the eyes were jaundiced, and the skin presented a slightly yellow tint; there was great shortness of breath. The abdomen was distended, measuring thirty inches in circumference, and the umbilicus protruded. The veins over the surface of the abdomen were slightly enlarged. The liver-dulness extended in the nipple-line from the upper border of the fourth rib to one and one-half inches below the costal margin. The left lobe extended at least two and one-half inches below the ensiform cartilage. There was also slight enlargement of the spleen. Diarrhœa was present, and the temperature was elevated one or two degrees. Signs of congestion were present over the posterior part of both lungs posteriorly. The pulse was very rapid, and at night there was delirium. The patient evidently was failing rapidly, and, in order to relieve the oppression of breathing, about eighty ounces of fluid were removed, with apparent relief. She, however, continued to sink, and, as I have said, died the day before yesterday.

I wish to call your attention to the liver, which, as you see, is large and of a yellow

color, the color being largely due to the presence of fat. Upon the surface the organ is slightly rough and granular. To the touch it is firm and hard. The finger-nail can scarcely be forced into its substance. In the normal liver this can be readily done. On making a section of the organ, we find that it cuts with great resistance. The lobules show three distinct zones: first, a central region of a brownish color; secondly, a yellowish zone; and, thirdly, an outer zone of a grayish, translucent appearance, separating the lobules. On careful inspection, it is evident that the liver is the seat of extensive fibroid change. The lobules are surrounded with a new growth of connective tissue, which in places is quite marked, having in some portions completely destroyed the lobules. I call particular attention to this specimen because it is an instance of cirrhosis with enlargement, the increase in volume being due in great part to the fatty change. Fatty cirrhosis has been designated as a special variety by French writers, but the advisability of such classification is, I think, doubtful. It is not at all uncommon.

An interesting point in the clinical history is the sudden onset of the dropsy. Three weeks before her death this woman was in her usual state of health. In cirrhosis of the liver it is not common to have the fatal termination follow so rapidly the appearance of the first serious symptom, particularly if this is ascites. Hæmatemesis, however, may carry off a patient with great suddenness and be the first manifestation of the disease.

JEFFERSON MEDICAL COLLEGE.

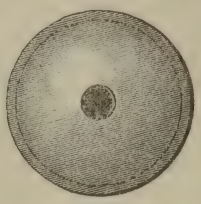
SERVICE OF JOSEPH HEARN, M.D.,

One of the Attending Surgeons to the Hospital of the Jefferson Medical College.

(Reported by W. M. Late Coplin, Resident Physician.)

TWO CASES OF IMPACTION OF TOY WHISTLES IN THE ŒSOPHAGUS.

BY reference to the accompanying cut (made the actual size), an idea may be formed of a toy likely to prove a rival to the toy pistol and similar inventions for the destruction of children. This apparently innocent toy is held between the lips and teeth, and apparently much amusement wrung from it by its boyish possessor by the noise made by blowing through it. The child carelessly carries the whistle in his mouth as he runs about, and upon making some sudden exclamation the toy drops back and falls into the œsophagus, where it lodges. Two cases have recently presented themselves at the Jefferson Hospital which may be of interest.



In the first case the child was 4 years old; had been playing with the toy, and as a result swallowed it. The usual symptoms of obstruction in the œsophagus supervened, and the little patient was brought to the out-patient department for examination. An anæsthetic was administered in order perfectly to relax the parts, and the surgeon, Dr. Hearn, passed into the œsophagus a bucket-probang or coin-catcher, forcing it gently past the foreign body, then, slowly withdrawing, brought up the whistle, which had been caught by the firm contraction of the œsophagus.

The second case did not differ materially from the first, the whistle being in each instance exactly similar to the one shown in the cut. In both cases the child was held in the lap of an assistant, its jaws held firmly apart by an instrument for the purpose, and in neither case did the manipulation extend over a period longer than five minutes. Dr. Hearn considers the bucket-probang or coin-catcher one of the most valuable instruments we possess for the removal of foreign bodies from the œsophagus.

An interesting point in connection with these cases is that they both occurred in the practice of one surgeon within the same week.

TRANSLATIONS.

Morbid Anatomy of Hysteria.—In the course of remarks upon the normal and pathological anatomy of the nerve-centres, at the Académie de Médecine, M. Luys directed attention to a specimen of a brain taken from an hysterical subject. He demonstrated anatomical peculiarities in this brain which had hitherto not been noticed. The morphological irregularity ex-

isted principally in the left hemisphere, where, at the level of the upper part of the fissure of Rolando, there was an abnormality which he himself had never seen before, consisting of a supplementary convolution coming from the centrum ovale and interjected between the extremity of the ascending parietal (which it pushed backward) and that of the ascending frontal (which it pushed forward). In the same lobe there was observed a decided thickening at the base of the ascending parietal, with multiple flexuosities. The right hemisphere was not similarly invaded, but the ascending frontal appeared broken in its continuity, forming a rare condition, such as is usually to be found in cases of chronic mania with hallucinations. Besides other features of secondary importance, he remarked the condition of extreme development of the quadrate lobes of each side. As some authors regard these regions as the proper territories of sensibility and psychic emotivity, this fact is important to note, as well as the projection of the paracentral regions, which also coincides with certain forms of cerebral excitation of which M. Luys had encountered several interesting examples.

He observed, in concluding his paper, that "it is seen, therefore, by this plain fact, that if hysteria is to be considered as a protean combination of original dynamic disorders, these dynamic symptoms alone do not constitute the disease. They reveal an underlying organic disorder,—a cerebral condition which is often inherited and fatally inherent to the subject, and which is the real characteristic of the bent of his mind and of the nervous manifestations of all sorts that it presents in its evolution, and which he cannot prevent. He is born hysterical, he lives hysterical, and he dies hysterical." The autopsies which he had made upon this subject at La Salpêtrière did not admit of doubt upon the subject in his mind.—*La France Médicale*, No. 116.

The Gastric Juice in Acute Phosphorus-Poisoning and in Pyrexia.—As the result of some experiments upon the gastric juice, Drs. Cahn and Von Mering declare that "the most severe diseases of the stomach are not capable of causing the disappearance of hydrochloric acid from the gastric juice." It appears that the formation of this acid is one of the most persistent functions of the organism. Phosphorus causes such marked degeneration of the mucous membrane and of the peptic glands that Dr. Cahn was induced to make some examination of the gastric juice of dogs after death from phosphorus-poisoning in order to ascertain if this condition might not prove an exception. It was found that hydrochloric acid was still secreted in quantity sufficient for gastric digestion, in spite of the extensive degeneration of the walls of the stomach and glandular organs. Incidentally, an interesting fact was noted, that as one of the results of phosphorus-poisoning sarco-lactic acid appeared in the gastric juice, probably due to the increased acidity of the blood. So far as is known, phosphorus-poisoning is the only case in which any other acid than hydrochloric acid is secreted in the stomach. The author concludes, if the extensive degeneration caused by phosphorus-poisoning is not capable of making the hydrochloric acid disappear from the glandular secretion of the stomach, that the gradual and less marked changes which accompany fever are certainly not capable of doing so. The view expressed by Klebs—that the early and marked digestive disturbances which accompany all fever processes are due to the absence or diminution of the hydrochloric acid—must therefore be renounced.—*Zeitschrift für Physiologische Chemie*, Bd. x. H. 6.

Resorcin in Skin-Diseases.—Dr. Wiss (*Les Nouveaux Remèdes*), having experienced great relief in his own person, while suffering with eczema of the hands, from resorcin, has used it in a number of cases with marked advantage. He employs it in the following forms: (1) in powder associated with talc or rice (one part to ten); (2) in solution with oil of sweet almonds and olive oil (of each three grammes, resorcin one to two grammes), or with glycerin (twenty per cent.); and (3) as an ointment combined with vaseline (one or two parts to twenty).

To Remove Stains of Iodine from the Skin.—The sulphide of sodium, or sodium sulphydrate, in a ten- or twenty-per-cent. watery solution, applied upon a compress, will remove the stain of iodine, as well as allay its irritant action when excessive.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, DECEMBER 11, 1886.

EDITORIAL.

RHEUMATISM AND RHEUMATOID AFFECTIONS.

THE indefiniteness of our conceptions concerning rheumatism was the theme of an interesting discourse by Professor Immermann at the recent meeting of the German Association of Naturalists and Physicians. Immermann regards the morbid process characterized by the classical phenomena of fever, articular inflammation, and peri- or endo-carditis as an infectious disease. A number of other less characteristic affections may be included under the adjective "rheumatic." Among these is acute endocarditis without joint-affections. In these cases a recurrence is sometimes accompanied by joint-inflammation, showing that the former attack was also rheumatic, although one of the most pathognomonic manifestations was absent. Acute sero-fibrinous pericarditis is also sometimes seen, in which, in spite of the absence of other symptoms, rheumatism may be diagnosticated. The presence of valvular lesions of the left heart in such cases, indicating preceding endocardial inflammation, is an almost certain evidence of the rheumatic nature of the attack.

Certain forms of what Immermann terms *masked rheumatism* may also be often recognized. One of the most frequent of these is neuralgia, most frequent in the trifacial and sciatic nerves. They may be accompanied or not by fever. They occur in persons who have previously suffered from classical rheumatic attacks, or are accompanied by endocarditis or followed by joint-inflammation.

A peculiar form of masked rheumatism is the *spastic*. Contraction or stiffness of muscles, especially of those in the area of distribution of the spinal accessory nerve, comes on suddenly, accompanied by fever and pain in the affected muscles. The stiffness of the neck-muscles may simulate an attack of cerebro-spinal meningitis. The absence of an epidemic of the latter disease and the prevalence of rheumatism at the time will help in making a diagnosis. Salicyl compounds and antipyrin are specific in their influence upon true rheumatism, and may be used as diagnostic aids, just as the iodides are sometimes relied upon to make a diagnosis of syphilis.

Gonorrhœal and scarlatinal joint-affections, purpura with joint-complications, the so-called *peliosis* or *purpura rheumatica*, the articular affections in individuals suffering from bronchiectasis, rheumatic tetanus, Landry's paralysis, acute anterior poliomyelitis of adults, sporadic acute polyneuritis, and beriberi, may be for the present classed as *rheumatoid* affections, in order to distinguish them from true rheumatism, from which they differ in clinical history as well as in treatment. The painful affections resulting from "taking cold" should be designated, as suggested by Erb, as "refrigeratory," and not as "rheumatic."

The adoption of Immermann's suggestions would tend to introduce some system in the application of the much-abused terms *rheumatism* and *rheumatic*. We think, however, that, even at present, his class of rheumatoid affections could be reduced in number.

BILLROTH ON MEDICAL EDUCATION.

GREAT perturbation has recently been caused among professional circles in the Austrian capital by a pamphlet of Prof. Billroth upon "Teaching and Study of the Medical Sciences." This is not

the first time that the distinguished Vienna surgeon has employed his pen in this field. Ten years ago his remarkable book, "Ueber das Lehren und Lernen der medicinischen Wissenschaften an den Universitäten der deutschen Nation, nebst allgemeinen Bemerkungen ueber Universitäten," attracted much attention, and by its outspoken criticism gave rise to not a few heartburnings. His later work seems to have created a still greater sensation than his former one. A cursory examination of some of the points touched upon will show that the attention the pamphlet has attracted is not undeserved. Billroth heads his first chapter "The Preparation for the Study of Medicine," and complains that the average German brain is lacking in capacity and training for quick assimilation and reproduction. This he ascribes to defective domestic education and consequent want of a proper sense of duty among the students. Hardly fifteen per cent. of the matriculants attend his lectures at the university. He concludes, therefore, that there is too much liberty allowed to students, and condemns the elective system now in vogue. It is worthy of note that Mr. James Russell Lowell took a similar position in regard to collegiate studies in his address at the recent Harvard celebration.

"Liberty of Teaching and of Study" is the heading of Billroth's second chapter. He thinks that the effects of this liberty have been an enormous increase of students, with diminished attendance on lectures, very ordinary examinations, uncultured physicians, lack of medical men in the country, and overcrowding of the large cities. These complaints do not sound unfamiliar to our American ears. Billroth proposes to diminish these evils by enforcing better attendance on lectures and clinics. Medical students are not competent of judging what degree of attention they should devote to the different branches. The Faculty must prescribe the studies and insist on compliance with their requirements. In our opinion a little more supervision would benefit students in American colleges as well as those of Vienna.

The Vienna medical school is overcrowded with students, which Billroth thinks is an evil. In this we quite agree, though we believe that American college professors count such an opinion a great heresy. In this country the largest class of students is supposed to indicate the best school,—which by no means follows. Billroth says that the quality of the teachers has but a slight effect upon the number of the students, but a great influence upon the acquirements of the latter. Good teachers and facilities for teaching, and few students, make good doctors. An increase in the number of medical schools in the Austrian empire is advocated, in order to relieve the great pressure on the Vienna university.

Billroth also pays his compliments in no very amiable way to the Faculties. The teachers are declared to be too numerous. At the Vienna school there are nineteen ordinary professors, forty-four extraordinary (or adjunct) professors, and sixty-five docents (tutors), a total of one hundred and twenty-eight. The same condition of things is becoming yearly more prominent in this country. It might be wise if our Faculties paid some heed to the warning of the great surgeon, whose profound study of the problems involved gives his opinions the force of authority.

THE CENTENNIAL CELEBRATION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

A COMMITTEE, consisting of Drs. Alfred Stillé, S. Weir Mitchell, I. Minis Hays, J. Ewing Mears, and S. W. Gross, has been for some time engaged in making preparations for an appropriate celebration of the centennial anniversary of the founding of the College of Physi-

cians of this city. The programme has been arranged as follows:

"1. An address by the President of the College will be given at Association Hall on Monday evening, January 3, 1887, at half-past seven o'clock.

"2. At nine o'clock on the same evening a Reception will be held in the College building. To the Address and the Reception invitations to ladies will be issued by the Committee on request of the Fellows.

"3. On Tuesday, at twelve noon, a meeting of the College will be held at which Honorary Fellowships will be conferred upon distinguished members of the profession.

"4. At half-past six, on Tuesday, the anniversary dinner will be given in the College building.

"5. A loan exhibition of the portraits of Fellows of the College, with those of distinguished members of the profession, will be held; and also

"6. A loan exhibition of rare medical books and rare objects of medical interest."

Fellows of the College are earnestly requested to make contributions of portraits, rare books, and objects of medical interest from their own collections; and their earnest co-operation is desired by the Committee, in order to make the celebration in every way worthy of the occasion.

The College was organized by a number of the representative physicians of Philadelphia on the 2d day of January, 1787, the object in view being "to advance the science of medicine, and thereby to lessen human misery, by investigating the diseases and remedies which are peculiar to our country; by observing the effects of different seasons, climates, and situations upon the human body; by recording the changes that are produced in disease by the progress of agriculture, arts, population, and manners; by searching for medicines in our woods, waters, and the bowels of the earth; by enlarging our avenues to knowledge from the discoveries and publications of foreign countries; by appointing stated times for literary intercourse and communications; and by cultivating order and uniformity in the practice of physick."

In view of the fact that the anniversary falls on the 2d day of January, Sunday, the conclusion of the address of Dr. John Redman, delivered at the meeting for organization, seems so especially appropriate that we make the extract from the original minutes:

"Respected Brethren,—After I had writ the preceding address, my mind took a more serious turn, which I willingly indulged. As the current of my thoughts related to the most substantial good of the Institution, and in a certain degree evidenced the earnestness of my desires to promote it.—Under that view, craving your indulgence a few minutes longer, I will venture to read them as they were hastily written, exactly according to their rise, progress and termination in my own mind; and though the manner in which they were expressed may not bear every kind of criticism; yet I trust the matter of them is such as will give offence to none, but be approved by you all. Especially as the principles and grounds of them are the words of one of the wisest of men: I mean King Solomon in his 3d Chapter of Proverbs, 'Trust in the Lord with all thine heart, and lean not to thy own understanding; In all thy ways acknowledge him, and he shall direct thy paths.' The antiquity of which words I hope will be no objection to them, with medical Gentlemen who acknowledge that some of their oldest authors are equal if not superior to many of the moderns. Be that as it may, They led me to consider That in one place of the Scriptures of truth it's declared (and believed by all who count them authentick and have made them the subject of their Rational attention and serious meditation)—That by the God of Heaven Kings Reign and princes decree Justice; and elsewhere 'That except the Lord build the House, they labour in vain that build it.' 'Except the Lord keep the City, the watchmen waiteth but in vain.'

"Taking these for granted, which I do most heartily, I am Convinced that it highly becomes rational men in all their lawful Enterprises and Undertakings of importance, Especially those which require Wisdom and Judgment, prudence and perseverance, effectually to accomplish them:—To acknowledge God to be their Sovereign Ruler and the Over Ruler of all Events, In Wisdom, Justice, goodness, and Truth; and also to acknowledge their obligations to him for every good they have or do enjoy; as well as their dependence upon him for any good which they still hope for or expect in the prosecution of their affairs publick or private, And for his protection, direction and success therein; and accordingly I invoke his aid, and implore his blessing thereon. Hence it is that I feel it both my duty and inclination, as your oldest member, and especially as your President, and as very becoming us at the Commencement of this our Institution, In your name and in your behalf, To acknowledge the Supreme Being to be our Sovereign Lord and Ruler; And also our obligations to him for every mercy and blessing we have been the subjects of, and especially for giving us capacities for such an Undertaking and Influencing our wills to engage in so good a design at this time. In same manner I

do also acknowledge our Dependence upon him for protection, direction, blessings and success herein: and furthermore I do also in your name and behalf, Invoke his Aid and implore him to grant unto us in this and all our lawfull enterprises, all that Wisdom, Prudence, discretion and Judgment, which are necessary to conduct it in a proper manner, to good effect and usefull purposes;—and also all that grace which may enable us to act herein from right principles, with just motives, to good ends, and according to the best rules and Regulations so that in this and all our works and ways we may glorify God, and do good in our days, and finally That after we have publickly and privately served our Generation faithfully, According to the will of God, we may be fitted for and admitted into his Kingdom and Glory, through Jesus Christ our Lord and Saviour."

The spirit of the founders of the College apparently is not shared by the Committee on the Anniversary Celebration, or such a rare opportunity of formally opening the ceremonies by a religious service on the natal day of the College would not have been so palpably slighted. At least two of the ex-presidents of the College lie buried in St. Peter's, one of the oldest churches of the city, and we learn that the Fellows of the College who wish to attend divine service at this church on the day named will be cordially welcomed. If it is desired by a number of the Fellows it is not yet too late to have this service entered as a part of the programme, and those who wish to attend can do so, and those who may not care for it can stay away.

The Association of Ex-Resident Physicians of the Pennsylvania Hospital will hold its second annual meeting in the Library of the Hospital December 16, 1886, when a dinner will be served and several interesting addresses made. A number of invited guests are expected to participate, among whom will be the venerable William G. Malin, who was the faithful steward of the Hospital for more than half a century. Dr. Thomas S. K. Morton is the Chairman of the Committee. Acceptances should be sent to the Hospital. A large attendance of the older Residents is especially desired.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

Therapeutics in Paris.—It is rather surprising to an American medical student in Paris to find such a slight interest taken here in therapeutics, as he is accustomed at home to hear full details upon the subject. At the official lectures given by the Professors, about fifty-six minutes are usually taken up in giving the pathology of a disease, and in the few minutes of the hour remaining but little can be said on treatment in the individual case. It is the same at many of the hospitals. The attending physicians will expose the fine points of every case in a most learned manner; but when it comes to the medication they will often fail to say a word about it, leaving it all to the interne to do as he thinks best in regard to it. It must be admitted that there is a wide-spread distrust in Paris in regard to the therapeutic value of drugs.

Professor Hayem, who holds the chair of Therapeutics at the Faculty, is a very good physiologist; his well-known experiments on blood, circulation, etc., are wonderful in their way; but he does not attempt to deliver any set course of lectures on materia medica and therapeutics, and during his short spring term he can only touch on a few of the newer therapeutical agents. But it must not be supposed from this that the healing art is entirely neglected in Paris. Quite the contrary; for we have in the doctors attached to the hospitals a large number of excellent practitioners and teachers. There are no distinctions made among this class of medical men; they all have the same title of *Médecin des Hôpitaux*, and each one has charge of a certain number of wards. Among them are many who are not Professors, nor even *Professeurs agrégés* in the sense of having the legal title and being attached to the Faculty of Medicine; but their clinical lectures are even more generally followed than those of the Faculty. M. Péan, the well-known surgeon of the St. Louis Hospital, is one of these men, and in especial connection with our present subject of therapeutics we have M. Dujardin-Beaumetz, of the Cochin Hospital (who is often spoken of as Professor in the United States), one of our shining lights, and he gives every year a valuable series of lectures and experiments on modern medicine.

Another eminent teacher is Dr. Henri Huchard, physician to the Bichat Hospital, who also gives a course of lectures that is elevated in style and eminently interesting. He has had fitted up at the hospital a most convenient and complete therapeutical laboratory, with regard to which he recently publicly made the following statement: "I wish to announce that this laboratory of therapeuti-

cal research is free to all who may be interested in the work. They may have a seat at the desks, and make use of all the ancient and modern medicines in stock for purposes of study without expense. M. Paul Chéron has charge of the biological and chemical department, and M. Charles Eloy of the therapeutical and the pathological anatomy section, and they will both be glad to offer their advice and assistance in experimentation."

We take some extracts from notes of a volume of clinical lectures on medical therapeutics by Dr. Huchard, which will be issued by O. Doin, publisher, early in 1887. The doctor, in speaking of "General Therapeutical Indications," first details four cases of pneumonia in each of which he employed different medication, according to the indications. For one case bleeding was used, with injections of morphine; for another sulphate of quinine in large doses; for the third Todd's potion, with injections of caffeine and urethan; and for the fourth case he put in practice the celebrated answer of Magendie, "Did you ever try doing nothing?"—the expectant system, in fact. He very pertinently asks, "Why this difference in medication in the same disease, or the same morbid state at least? It is because in clinical medicine one should not treat a disease, but the patient; and there are no local maladies, but the malady is localized. Sydenham was right in saying, 'Practice of medicine consists more in knowing true indications than in inventing remedies to fill them.' What is an indication? '*Agendi insinuatio indicatio est*,' Galen said, and we define this to be the therapeutic deduction founded on an examination of the patient and his disease. It results from this that we should take into account the disease, the patient, and the remedy. For the first, search the cause, its lesions, its complications, etc.; for the patient, regard must be had for constitution, temperament, age, sex, physical strength, his surroundings, and especially the season of the year. As to the medicine itself, the question of dose is a most important one, as different effects can be obtained from the same drug according to the method in which it is administered and according to the quantities used. For instance, the cardiac action of digitalis can be obtained with quite small doses, but its antifebrile action is only demonstrated by comparatively large doses. For the modifying and restoring action of arsenic on nutrition it should be given in doses of not more than five milligrammes to one centigramme per day; but in chronic malarial poisoning the dose must be raised to two to five centigrammes in the same period of time. Sulphate of quinine in moderate doses is a most powerful anti-neuralgic remedy, but the dose must be massive in malarial fevers; and, again, it may fall to five or ten centigrammes when given in the continued dose to obtain its tonic properties. If morphine be injected in proper quantity, it procures calm sleep; but it is usually exciting in small doses. All these facts have an important practical use, and they impose the obligation of modifying doses according to the state of the patient and the therapeutic effect sought for."

We pass over some most interesting lessons of Dr. Huchard's and close with extracts from the section on "The Abuse of Medicine," where he gives some amusing details of the good old times in France. "Bouvard, one of the doctors of Louis XIII., gave him in one year two hundred and fifteen purgatives and two hundred and sixteen injections, and also bled him forty-seven times. History also tells us of the *Grand Monargue* that he was bled thirty-eight times from 1647 to 1715, and that he took two thousand purgatives, either of 'precaution or of urgency,' as they put it. Indeed, so much was the evacuation system in fashion then, that the Duke of Saint-Simon relates in his works that the Dauphiness had a clyster introduced by her chambermaid in presence of the king and the court. The famous case at law of those times of Boyau *vs.* Bourgeois, for payment of two thousand nine hundred and ten *lavements* administered in two years, is celebrated. Make the calculation, and see how many daily injections the unhappy fellow had to take. Well, these old-time exaggerations, which only excite a smile to-day, were made according to a theory, or a doctrine, and, even if times do change, the theorists remain unchangeable. There are also 'moral indications.' Chomel, a great and honest man, observed, 'In great physical, as well as in psychical, pain, sympathy is sweet to the afflicted, and that of the physician is above all precious.' The doctor, with a little tact, will associate himself closely with all the little trials of his patients, suffering with them as it were; which, after all, is not much of an effort for a man of heart. Called once to a patient in great pain, we asked why he had given up the services of a good doctor that we knew had been in attendance. 'Well, he said he could not cure me, and he did not even comfort me, as he did not *sympathize* with me.' The advice is given to try to treat patients as much with your heart as with your intelligence. Particularly is kindness useful in nervous diseases, for ever since man existed and suffered the language of pity has always been one of great use in relieving pain. A kind pressure of the hand or a charitable phrase often does more good than all the ingredients that we have boiled, filtered, or crushed in a mortar." Dr. Huchard finishes this part of his work with Trousseau's exclamation to the theorists, "For pity's sake, gentlemen, give us a little less science and a little more art," and he adopts as a profession of faith, "*Ars tota in indicationibus.*"

Treatment of Chronic Articular Rheuma-

tism by Passive Movements, notwithstanding the Pain.—Professor Trastour, of Nantes, has published an interesting article on this subject, of which we may give some details. Immobility of the joint affected in *acute* articular rheumatism is without question the proper treatment; but it is not the same in *chronic* forms. No matter if the bones, cartilages, ligaments, synovial structures, and muscles are all attacked, Dr. Trastour advises as the first and most important part of the treatment gradual movements with moderate continual exercise. He tells his patients to keep moving, notwithstanding the pain it causes: that is the price of cure. He has seen for the last seven years a series of most excellent results from this method. He was led to adopt the plan from observing that rheumatic patients in the wards who were made to move did not ever get so infirm as those who were permitted to remain in bed. If there is an inflammation in chronic rheumatism, which is disputed, it will certainly not go away, for this disease is progressive, and all the articulations will get it in time if it is allowed to go on. Infirmity increases and becomes incurable, and immobility leads to anchylosis.

Professor Massé, of Bordeaux, Professor Verneuil, and other surgeons recommend motion after the inflammation has been cured, but Dr. Trastour is of opinion that movement must be used at once in all chronic cases. Before applying motion notwithstanding the pain, be sure of your diagnosis of any of the so-called forms of chronic rheumatism (deforming, nodose, gouty, dry arthritis, etc.), because one might fall into an error at first; but if on examination of several joints more than one is found affected (as, for instance, the finger-joints with the knee), the treatment by motion may be recommended. The moment, in fact, that the disease seems to generalize itself, movement must be used. A number of cases were cited to prove the benefit derived. One of them is quite a striking case of a man who had progressed so far towards immobility, according to the rest-system, as to have his food cut up for him, and was afraid to move his hands for the pain. He was induced to try the movement-cure, and soon got the use of his limbs and hands again. Another case was that of a lady and her servant, who were both attacked in the same way and with about the same degree of chronic rheumatism. The servant takes the movement-cure and goes on with her active work, while the lady gets worse in her soft but dangerous repose. It is well known to us all that men are less subject to these troubles, owing to the fact that they are mostly more active than the women. While insisting on the patient "moving on," a general treatment must also be given, the stomach, kidneys, and skin must be watched with care as to the proper exercise of their functions, and everything that can bring up the organism and give it tone should be used,—meat, beer, iron, cod-liver oil, arsenic, iodine, mineral waters, etc.

For medication the preparations of the iodides are to be preferred, and Dr. Trastour gives the following formulas, which he recommends to be continued for a long time: Iodine (1 gramme) and iodide of potassium (10 grammes), dissolved in distilled water (300 grammes); or, iodide of calcium (10 grammes), combined with lime-water (50 grammes), given in distilled water (250 grammes). Of either of these the dose would be a teaspoonful with noon and evening meal, given in wine or milk.

As to additional local treatment, massage or friction with a stiff whisk broom or broom-brush is recommended, with occasional sulphur baths. To those rheumatics who submit themselves to this sort of treatment early, it is claimed a considerable amelioration will result, and very often a complete cure. In place of crutches, parallel bars must be placed in the room until the patient can walk a little, and then a chair is given to push ahead of him, which afterwards may be given up and two canes substituted. (Professor Rendu, of Paris, gives pure tincture of iodine, in five-drop doses taken in wine, in chronic arthritis.)

Hysterical Symptoms transferred from One Patient to Another by the Use of the Magnet.—M. Babinski, who is "chef de clinique" to Professor Charcot at the Salpêtrière Hospital, has been making a series of very curious experiments that are attracting a good deal of attention here. They were intended to show that certain hysterical manifestations can be transferred by the use of a magnet from one patient to another, even when they are at some distance apart. In this way he was able to transfer different forms of paralysis, such as brachial monoplegia, hemiplegia, coxalgia, and dumbness. One of the experiments was as follows. A young, hysterical woman, who had been dumb for the last two or three years, was one of the patients operated upon, and the other was a hysteric who could be hypnotized. The patients were brought in apart: the dumb girl was first brought in and put in a chair, and a large, close screen was drawn around her so she could not see the other woman, who was now brought in hypnotized (in the magnetic sleep). She was in turn placed on a chair at a little distance from the screen, so that there was no immediate communication between the women. She was then submitted to the action of the magnet, and in a few minutes she was ordered to speak by M. Babinski, but she could not articulate a word, while the other patient (the dumb one) on being touched with the magnet was able to answer clearly all questions put to her. Every precaution was taken so that it would be impossible to say that this effect was produced by suggestion or by any

simulation. The action lasts but a few minutes, and the patients quickly return to their original state. In further experiments, however, M. Babinski reports to the last meeting of the Société de Biologie that a considerable amelioration was noticed in certain cases of spontaneous paralysis, and in one case of hemiplegia following an attack complete disappearance of the paralysis was obtained after four consecutive experiments. So that we may have here a new method of treatment which, when followed up, may lead to important results that we will report in due course.

The Fasting Men.—The arrival of Signor Succi here, who fasted thirty days in Milan, with the aid of a marvellous liquid that he drank first, and the fact that a young Italian named Stefano Merlatti has undertaken to fast fifty days with nothing but filtered water, has caused considerable stir in scientific circles. It is not at all likely that Succi will find any of the serious doctors of Paris willing to act on a committee to watch the effect of his liquor in regard to fasting, but Merlatti has induced several medical men to watch and control his experiment to prove that a long fast can be done without the aid of any mysterious drugs. It came about in this way. Many of the Paris daily papers have doctors who are attached to their staff to write scientific articles for their columns, and a certain Dr. P. Maréchal had written in the *Voltaire* very strongly against Succi and his liquid, and gave it as his opinion that a man could not honestly fast more than ten days. This brought a number of all sorts of people to the doctor's door with offers to prove that they could fast for a number of periods from ten to fifty days. Merlatti wrote to him from London, and said that he had already fasted thirty-six days and would do fifty. Although no answer was given to him, he came over to Paris, and a committee was formed consisting of Drs. Maréchal, P. Collin, A. Combe, E. Monin, and P. Dutrieux Bey, and Dr. Audhoui, physician to the Pity Hospital, was induced to act as consulting physician. The Grand Hotel gave a parlor and bedroom on their first floor, and the fast began by Merlatti eating a good dinner and agreeing not to take anything but water for fifty days. We were invited to call as often as we liked to see the experiment, and had some conversation with Merlatti. He says he was born at Mondovi, near Turin, Italy, on March 21, 1865. He is a slight, boyish, dark Italian, who has been working at drawing in London for a year or so. He is quite intelligent, speaking French and a little English, besides his native tongue. He told us that he first fasted ten days as a boy of twelve: his teacher had beaten him, when he ran away off to the woods and had nothing but water for ten days. Afterwards, in London, he made a bet with his fellow-workmen that he could go forty days without any food, and he says he actually did go thirty-six days, while watched by his friends. The present trial seems to be made with every precaution as to honesty. Two men watch him all day, and one all night, while the doctors call twice a day. His weight before starting was 61 kilos 200 grammes. On the tenth day, when we saw him, his weight was 57 kilos 100 grammes, pulse 72, temperature 37° C., dynamometer 140, spirometer 2.400, and total urea 4.6 grammes. On the twentieth day, when we saw him again, he looked a good deal emaciated, and his pulse was 72, temperature 36.8°, weight 53 kilos 850 grammes, and urea only 2 grammes. He said that his head ached a good deal, but he felt well otherwise, and he did not care for food after the second day. He says he is determined to continue for the fifty days, but Dr. Audhoui says if he loses more than a third of his weight he will tell him to stop.

About the scientific value of this experiment not much can be said; the doctors admit that; but nevertheless it is a curious thing that a man can exist so long without food as even the twenty days now past. No doubt it is very risky in physiological life to live on capital, and, as far as we know, it cannot result in good unless from the rest it affords to the principal organ of digestion in ulcerous complaints or gastritis.

Combination of Antiseptic Substances.—Certain of the antiseptics cannot be applied to all the tissues at a degree of concentration sufficient to produce their antiseptic effects without danger, owing to the fact that they are caustic or otherwise poisonous. For instance, a solution of bichloride of mercury of one to thirty thousand cannot be used upon the pulmonary parenchyma.

M. Lépine has been experimenting to get a solution that would be harmless, and at the same time unite and augment the effects of the different antiseptic substances. He gives the following in solution in distilled water:

One-hundred-thousandth part of corrosive sublimate.
One-thousandth part of salicylic acid.
One-thousandth part of carbolic acid.
One-half-thousandth part of benzoic acid.
One-half-thousandth part of chloride of lime.
One-ten-thousandth part of bromine.
One-two-thousandth part of hydrobromic acid of quinine.
One-two-thousandth part of chloroform.

This composition is not at all irritating, and it has the very strongest kind of antiseptic properties, seeming to act with the full force of each ingredient.

Some Inconveniences of the Milk-Treatment in Stomach-Diseases.—Professor Debove gives

the following history of a patient, which proves that we should use more care in the indiscriminate use of the milk-treatment in stomach complaints. Two years ago the man in question presented all the usual symptoms of alcoholic gastritis: his hands trembled, he had pyrosis and pains running to his back, and later he vomited blood, giving rise to the supposition of ulcer of the stomach. Upon consulting a doctor he was advised to take two quarts of milk a day. He followed this treatment conscientiously, and he was before long in such a state of weakness that he was brought to the hospital, where he was advised to take eight quarts of milk a day: at first he did fairly well, but later he had lost over thirty pounds in weight. When Dr. Debove saw him he was not able to walk nor even to stand up, and he had an enormous dilatation of the stomach, proved by washing it out, as some three quarts of liquid were withdrawn. This washing out was renewed every day, and only a quart and a half of milk was given, with some solid food. After three months' treatment the patient was well enough to be sent to the country for his health.

It results from this that milk must be employed with some limit as to measure to obtain its incontestably good effects.

THOMAS LINN, M.D.

PARIS, November 19, 1886.

NEW YORK.

THE Meeting of the State Medical Association.—The Third Annual Meeting of the New York State Medical Association was held at Lyric Hall, New York, November 16, 17, and 18, Dr. E. M. Moore, President. The number of casual listeners seemed to be smaller than at the first two annual meetings, but the number of members who registered, being about one hundred and fifty, was nearly equal to that of the two preceding meetings. The attendance from New York City and Brooklyn seemed to be diminished, but this perhaps was made so intentionally, as only members or those holding a card of admission could enter the hall. The number of physicians from without the State who had by invitation prepared papers to read before the Association was a noticeable feature, and added not a little to the attractiveness of the meeting. Of these, Drs. Varick, of New Jersey, John B. Hamilton, of Washington, C. T. Parkes, of Chicago, and C. B. Nancrede, of Philadelphia, participated in the discussion on "Shot-Wounds of the Intestines;" Dr. James Tyson, of Philadelphia, took part in the discussion on "Eclampsia." The subjects discussed in the papers were generally practical, and at least interesting, and as a whole were handled in a very creditable manner. The younger physicians who had not had a large experience in writing showed a marked improvement in the preparation of their papers over former years. If any general objection could be made, it probably would be that the writers attempted to treat of their subjects too exhaustively. This view was the more forcibly impressed because of the large number of papers presented: each author prepared his paper apparently without a knowledge of what the others had written, and although assigned a particular part of the subject for consideration, the introductory or general remarks in the several papers, while presented in different words, were essentially the same. This was most apparent in the discussion on "Shot-Wounds of the Intestines," as the authors held nearly the same views, and had previously made them known to the profession through medical societies and journals. It was least observable in the discussion on "Eclampsia," as here there was a marked difference of opinion regarding the cause, the treatment, and the prognosis of the disease. The real views of the participants in the discussion, uninfluenced by the opinion of that or the other eminent authority, would probably be more nearly arrived at in an off-hand discussion, although with a less display of learning.

In the discussion on "Shot-Wounds of the Intestines," participated in by Drs. W. S. Tremaine, J. D. Bryant, E. M. Moore, W. T. Bull, T. R. Varick, C. B. Nancrede, F. S. Dennis, J. B. Hamilton, and C. T. Parkes, there was general unanimity in the view that laparotomy should be performed, the intestinal wounds closed, and the abdominal cavity cleansed. The difficulty of the procedure, however, was admitted. To assist in an exact diagnosis, Dr. Hamilton claimed that it was good surgery to probe the abdominal wound, using not too small a probe and exercising care in order to avoid puncturing the peritoneum or gut.

Regarding pulmonary tuberculosis (discussed by Drs. H. D. Didama, John Cronyn, H. M. Biggs, H. L. Elsner, W. H. Flint, and John Shrady), Dr. Didama claimed that it had not been shown to be hereditary in the sense that the newly-born infant ever had pulmonary tubercles; that in the large majority of cases consumption manifests itself in persons whose parents were not consumptive; precautions should be taken to avoid possible contraction of pulmonary tuberculosis from those suffering with the disease. Dr. Elsner claimed that, in the present state of our knowledge, we were justified in speaking of bacillary tuberculosis and of non-tuberculous consumption.

In opening the discussion on eclampsia, Dr. Lusk presented the different views which had been advanced regarding the causation of puerperal eclampsia, and thought that a sufficient number of cases had been reported in which there was no evidence of renal disease to prove that uræmia could not be claimed as the exclusive exciting factor. Dr. Thomas

had seen only two cases out of a large number in which there was absence of definite signs of kidney-complication, and Dr. Tyson also took the view that in the very large majority of cases the cause of puerperal eclampsia was to be looked for in disease of the kidneys. Dr. Thomas said that in a case with mild symptoms he might temporize with purgatives only in case there was an experienced physician in attendance. His experience differed from that of Dr. Thomas, who had found the only safety to lie in induced labor. According to his observation, the conclusion of gestation causes a cessation of the convulsive symptoms. He had seen two cases in which the convulsive symptoms ceased immediately after the death of the fœtus, although the dead body remained in the womb for some time afterwards. Dr. Colvin, on the contrary, had found the induction of labor seldom called for when the physician resorted to venesection at each occurrence of convulsions, regulating the amount of blood drawn by the effect upon the pulse. He also gave cathartics and employed other general measures. Dr. E. D. Ferguson said he had seen twenty-five or thirty cases of puerperal eclampsia, and none had resulted fatally except those in which violent measures were employed connected with the induction of labor. Dr. E. D. Moore regarded the employment of chloroform, which some of the speakers had recommended, as dangerous, especially as its administration would have to be unduly prolonged if continued to the cessation of the convulsions; whereas ether could be given as long as there were any symptoms of convulsions. He also gave an active cathartic, and the most effective at the time of the convulsions was croton oil. Sulphate of magnesia was more suitable to the case, and should be employed after the convulsions had ceased and during the remaining weeks of pregnancy. Dr. MacGregor, in considering the question, In what proportion do the insane in public asylums owe their insanity to puerperal convulsions? arrived at the conclusion, from correspondence with the medical authorities of over sixty asylums, that a causative influence between puerperal eclampsia and insanity had yet to be shown.

An interesting paper was that read by Dr. Alfred L. Carroll, on "Recovery *versus* Cure." The author showed in a somewhat caustic manner the presumptiveness of physicians in so commonly attributing the recovery of patients to the effect of drugs administered, rather than to the efforts of nature, whose constant tendency was to overcome disease if the patient would only cease to violate the health-laws. That the tendency of the diseased was towards recovery was evident from the fact that they did recover under a great variety of opposing methods of treatment,—at the hands of the quack, the homœopath, the commercial medical advertiser, as well as at the hands of the regular physician. The lesson drawn was, "Be content to do nothing unless you are sure you can do good."

An interesting specimen, consisting of a large mass of hairs matted together, and causing death by its presence in the stomach, was presented by Dr. Finder. Dr. Alvin A. Hubbell reported a case of congenital stenosis of the nose from a thin partition of bone, which was overcome by a hand-drill. The passages again becoming occluded, the openings were again enlarged and kept dilated for some time by the patient wearing a tube of block-tin.

There were about fifty papers read altogether. The Association still holds to the rule adopted at the last annual meeting, of allowing no paper to appear in the volume of Transactions which had previously been published in a medical journal.

Dr. Isaac E. Taylor, of New York, was elected President.

Medical Society of the County of New York.—At the adjourned annual meeting held November 22, 1886, Dr. John C. Peters, of the Committee on Hygiene, read an additional report, in which the committee recommended that the baling of stable-manure be enforced in every practicable and reasonable way. The advantage of this method of disposing of the manure was that it could be baled inside of the stables, doing away with the filling and emptying of sidewalk manure-pits.

On recommendation of the Treasurer, a resolution was passed providing for the payment out of the treasury of the dues of members who were in arrears and whose present circumstances would make it embarrassing for them to pay such dues; and providing also for the expulsion of members who were able to pay their dues but refused to do so.

Dr. Daniel Lewis, President of the Society, read a brief address, in which he spoke of the harmonious relations existing between the Academy of Medicine and the County Society, of the desirability of a complete membership from among all honorable physicians in the city. He then introduced the President-elect, Dr. Laurence Johnson, who called the stated meeting to order and proceeded to read his address, in which he dealt with the subject of the relations of the Society to the public at large, to the Board of Health, to the general profession, and to itself. He spoke of medical charities, and thought one way to avoid their abuse was for the physician to base his charges to poor patients upon their ability to pay, and not necessarily according to the value of his services, which perhaps could be paid only by the well-to-do or the wealthy. The poor of New York constitute nine-tenths of the population. The paupers could be left for the care of charity institutions proper. Regarding specialism, he said there are

specialists evolved from general medicine, and these and the general profession were always in close sympathy with one another; but there are also specialists who were not evolved from general medicine, but as it were from the raw material, and these had no sympathy with the family physician, and the general profession could have little with them; the subject of general medicine had no interest for the latter class of specialists.

Dr. James O'Reilly, against whom charges were made, was expelled from the Society.

It was resolved to continue the publication for another year of the "Medical Directory of the City of New York," to be edited by the Comitia Minora. R. C. S.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CLINICAL meeting was held November 17, 1886, Dr. William Osler in the chair.

Dr. J. C. Wilson read the report of a case of "Peritonitis in Enteric Fever, terminating in Recovery, with Remarks" (see page 175).

DISCUSSION.

Dr. Frank Woodbury: The recommendation of the lecturer with regard to operative interference at once raises the interesting and important question of diagnosis. Two classes of cases are at once recognized,—peritonitis with perforation, and peritonitis without perforation. The suggestion with reference to operation generally would apply only to the former. Cases also in which there is bursting of an infarct of the spleen or in which septic material is thrown into the peritoneal cavity from any other source would come under the same head. I think in such a case, if other circumstances do not specially forbid the operation, the suggestion of Dr. Wilson is one that might be acted upon. Where perforation occurs in typhoid fever there is not only foreign matter in the peritoneal cavity, but intensely poisonous foreign matter, and we might in these cases open the abdomen and try to render the field aseptic, just as has been done successfully in suppurative peritonitis from other causes. In typhoid fever we not only have the special bacteria of this disease, but, owing to the absence of the gastric juice for several weeks and the almost entire abolition of the function of digestion, there is a collection of sordes along the gastro-intestinal tract which serves as a culture-medium for all kinds of micro-organisms. When the gut is opened and this fluid is poured into the peritoneal cavity, it is clearly our duty, if considered from a surgical stand-point alone, to remove it if possible. At the same time, I should not say that all cases of peritonitis due to perforation of the bowel should be operated upon. We know that cases of peritonitis with perforation occurring in the course of typhoid fever sometimes recover with the aid of appropriate treatment. Opium, which was so successful in the case reported, has also been successful in other cases. We should first eliminate this favorable element from the prognosis. If the case were one that could not recover otherwise, we might formulate the law that it should be operated upon: even if the chance is a desperate one, it would be the patient's only chance; but I make the point that some cases of perforation do recover without resort to surgical measures, although I admit that the result is usually a fatal one.

In the cases of peritonitis without perforation, the extension of inflammation from the mucous to the serous coat by contiguity has always seemed to me an exceedingly hypothetical explanation. In hospital practice I have seen at least two cases coming under my care late in the disease in which there was pyæmia. There were collections of pus around the joints and under the skin. Now, peritonitis is not a rare occurrence in pyæmia; and it seems to me that this should be considered as one of the possible causes of peritonitis where it occurs without perforation in typhoid fever. In rare instances, then, the cause of the infection is through the blood, but it may be more direct. Who can say, at the post-mortem examination, that there has not been a minute perforation in the very thin wall of the intestinal ulcer which has been sealed by lymph before death? A pin-hole perforation sufficient to allow the extension of inflammation from the mucous to the serous coat may have existed and afterwards closed, so that it may become an impossibility to discover it.

I wish to call particular attention to a condition which may simulate peritonitis in just such cases as have been described to-night, and which is interesting from a diagnostic point of view. I have met with it in a number of patients who had been treated with the greatest care as regards diet, and every effort made to avoid irritation of the bowel. The case goes on to defervescence, and within a week after the temperature has reached the normal the patient partakes of a meal of bread and soft-boiled egg, usually at breakfast-time. The result is that on the same evening there is a return of the fever, with abdominal tenderness, tympany, and diarrhœa, and sometimes a few spots reappear upon the surface of the abdomen. In the condition of the intestinal tract present after typhoid fever the albumen of egg seems to act as a poison, at least in some patients. I merely mention this to show the possibility of confounding the two conditions. I now avoid this recrudescence of the fever by simply omitting the albumen of the egg from the dietary and giving the yelk alone, with milk or wine, two or three

times a day. This is generally well borne and causes no irritation.

I was much interested in the case reported, but I was unable to gather from Dr. Wilson's remarks whether or not there were evidences of effusion. This would of course be an important element in the diagnosis of peritonitis.

Dr. William Osler: I think that the cases of peritonitis following typhoid fever can be grouped into three sets. The first group is that in which perforation occurs from the depth of the slough. This constitutes the largest group of cases, and the fatal event is most apt to take place in the second or third week. I have seen it as early as the tenth day, if not earlier. In these cases the condition of the patient is, as a rule, such that the operation of laparotomy would scarcely be indicated: the patients are so profoundly overwhelmed by the severity of the attack that they are in no condition to stand an operation; the ileum, moreover, on which the operation would be performed, is in a most unfavorable condition for surgical interference, the wall of the gut being infiltrated and swollen.

In a second group of cases the operation might be successful. In these instances the sloughs have already separated, but the ulcers remain, and from some indiscretion, usually in diet, a slight tear takes place at the bottom of the ulcer, with the development of peritonitis, which is usually fatal. This may occur late in the disease, long after the fever has subsided and the patient is supposed to be convalescent. One such instance I have reported, in which the perforation occurred between two and three weeks after the temperature became normal. It resulted from the patient eating two or three chops which were injudiciously given to him. The patient died within thirty-six hours after the occurrence of the rupture. In this case there was found an unhealed ulcer with a narrow rent at the bottom.

The third group is a very limited one, in which the peritonitis has resulted from the extension of inflammation from a slough or ulcer. While peritonitis from this cause is not very frequent and is not very extensive, I can state positively that it does occur.

I think that in the cases in which perforation takes place as the result of indiscretion in diet during convalescence, laparotomy would be indicated. In the first group of cases the operation would probably do no good. An interesting question arises in this connection, and that is how soon in typhoid fever we should return to a more solid diet. I make it a rule not to give solid food for at least ten days from complete evening defervescence.

Dr. Wilson has spoken as though a large quantity of fecal matter escaped into the peritoneal cavity in the perforation occurring in typhoid fever. It is exceptional in my experience to find in these cases a large amount of fecal extravasation. Adhesion of the coils of intestines rapidly takes place and prevents this.

Dr. Frank Woodbury: What is the criterion of inflammation in a serous membrane?

Dr. William Osler: Practically, as applied to the intestine, neither redness nor swelling, but lymph: perhaps not lymph that can be distinctly peeled off, but sufficient to dull the normal glossy appearance of the membrane. That is, I think, the criterion of inflammation in the peritoneum, the pleura, and the pericardium.

Dr. Woodbury: That I understand to be the usual histological criterion of inflammation; the pathological one is that inflammation is nature's reaction against an irritant. In the case in question this irritant is nothing more nor less than a form of bacteria. I would ask, in the absence of septicæmia, how the fluids containing the bacteria can get from the interior of the gut to the serous membrane outside without the existence of a perforation, however minute? It seems to me that there must be a direct means of egress in these cases through the intestinal wall from the mucous to the serous surface.

Dr. J. Howard Reeves: I would like to report a case of mild typhoid fever in which imprudence in diet was followed by a series of rigors, hemorrhage from the bowels, and peritonitis; the peritonitis continued nine days, and was followed by recovery; the typhoid convalescence was very slow.

Dr. J. C. Wilson: I may say to Dr. Woodbury that in the case reported there was no error in diagnosis. It was carefully examined from every point of view both by myself and by Dr. W. W. Keen.

I recognize the propriety of the remarks of Dr. Osler. When I spoke of extravasation of the intestinal contents I did not mean to imply that a large quantity was thrown out. In enteric fever the nature of the intestinal contents is such that a small quantity may set up a very serious inflammation. On two occasions, however, I have found scybalous masses in the peritoneal cavity, and in one case recovered a fragment of sweet potato.

I recognize the force of his division of the cases, from the pathological stand-point, into three groups. The second group of cases is certainly the most available for operation to save life, but I do not believe that even the first group should be wholly excluded from consideration. Many cases of traumatic peritonitis have been saved by operation during the past few years which no one, five or ten years ago, would have thought of subjecting to operation. The operation should be done in cases of impending death from perforation with the slim hope that it will succeed. If the operation be performed—as I confidently expect—in enteric fever, it will be at first in the

second group suggested by Dr. Osler; if it succeeds there, it will be after a time considered right to operate even in the first group.

Dr. William Osler read a paper on "Duodenal Ulcer: Clinical and Anatomical Considerations based on Nine Cases."

DISCUSSION.

Dr. John E. Whiteside: The patient whom Dr. Osler saw with me had suffered with dyspepsia for a number of years previous to his last illness. The abdominal pulsation which has been referred to was at times extremely distinct. I agreed with Dr. Osler that this was probably due to aneurism. The first vomiting took place four days after the patient was seen by Dr. Osler. A few days later the patient was taken with a violent attack of pain, and died within fifteen minutes. The post-mortem examination at once explained the trouble, for the whole abdominal cavity was filled with blood.

Dr. William E. Hughes: I wish to put on record a case in which the diagnosis of duodenal ulcer was, I think, confirmed by the subsequent history of the case. The patient was a farmer, 26 years of age, who had complained for about two years of dyspeptic attacks. Under an exclusive milk diet the dyspepsia was much lessened, but did not entirely disappear. The main symptom was extreme pain, which appeared two or three hours after eating. It was located to the right of the epigastrium, and was accompanied with slight tenderness. On several occasions after these attacks of pain the patient passed large quantities of pretty fresh blood by the bowel; the general condition was fairly good. He then went to the country. Some time later his physician wrote to me after one of the attacks of pain the patient passed into a condition of collapse, from which he reacted, and two or three days later a fluctuating mass developed in the epigastrium to the right of the median line. I have been unable to obtain any further information in regard to the case.

Dr. Frank Woodbury: I wish to report a case of ulcer in the upper part of the small intestine. A young woman aged 22, a schoolteacher, while at her occupation, and apparently in health, was taken with severe pain in the abdomen, and was brought into the German Hospital. Peritonitis developed on the following day, and she died that night. At the autopsy a small, round, perforating ulcer was found in the upper part of the jejunum; a large lumbricoid worm was also found in the vicinity. The question was discussed whether there was any connection or not between the presence of the worm and the thinning of the gut.

Dr. William Osler: The pain in duodenal ulcer is very irregular and variable; the attacks may come on after meals or independent of the taking of food; there are instances in which pain has been entirely absent.

A remarkable feature is the length of time that these cases last. There are cases on record in which the duration has been ten or fifteen years.

The pulsation observed in Dr. Whiteside's case was probably due to the anæmic condition and to the fact that the thickened head of the pancreas and the thickened ulcer were immediately over the aorta, which in systole pushed up the left lobe of the liver and produced the wave of pulsation which was so visible.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

STATED MEETING, OCTOBER 7, 1886.

The President, B. F. BAER, M.D., in the chair.

(Continued from page 165.)

DR. BAER also presented the specimen and related the history of

A MONOCYST OF THE OVARY.

Mrs. J., aged 29, married four years, sterile; puberty at fourteen years of age, and menses always normal. Seven years ago she first discovered that the lower portion of her abdomen was increasing in size. This continued very slowly during the next three years, and at the time of her marriage it was large enough to be perceptible to her friends. It ceased growing until six months previous to the date at which she first consulted me, April 14, 1886, when she seemed to be in excellent health; no loss of flesh, no pain; complexion ruddy, and appetite good. Menstrual flow increased, and accompanied with uterine tenesmus during the last two months; and she had begun to complain of pressure and over-distention. When the patient was in the dorsal position the abdomen did not flatten out, and it was symmetrical and smooth. Dulness on percussion over the anterior and lateral surfaces of the projecting portions of the abdomen, with resonance in the line of the colon. There was marked fluctuation in the dull region. Vaginal examination showed the uterus anteverted, of normal size, not freely movable, yet not closely adherent to the tumor.

Diagnosis, probably cyst of the broad ligament, from the long existence of the tumor, its slow growth, symmetrical development, together with the fact that it had not influenced the patient's health during its growth until it had attained such size as to interfere with respiration. Its removal was advised, and the operation was performed at my private hospital April 27. An incision three inches in length was made. The tumor was rather darker in appearance than is usual in cysts of

the broad ligament. It was now tapped and a dark grumous fluid drained away. The tumor collapsed and was easily drawn through the incision, when its pedicle was found to consist of the entire broad ligament and to be very short, holding the base of the tumor deep in the pelvis. I was compelled to enucleate the cyst, leaving a broad open pedicle or surface which I ligated *en masse*.

An accident now occurred from which the patient almost lost her life from hemorrhage,—viz., slipping of the pedicle ligature. The mistake was in endeavoring to make a pedicle of the broad ligament, which had been laid widely open by the enucleation of the tumor, and which was not a proper pedicle. The mass was too great to be held by ligature, and was treated by bringing the edges together by interrupted sutures, of which ten were required. The hemorrhage was checked by grasping the vessels in clamp-forceps until the sutures were placed. There were no after-symptoms. The patient is now entirely well.

I call attention to the monocystic character of this tumor, its location in the broad ligament, and to the character of the contained fluid,—dark-colored and thick, not clear and limpid as is usual in cyst of the broad ligament proper.

The report of Dr. Formad is: "The cyst is a monolocular one, developed from the ovary undoubtedly. Its lining is characteristic of ovarian cysts, epithelial, and whatever scrapings from the wall could be obtained showed the ovarian cells of Drysdale. The fluid was dark, grumous, and turbid, which excludes cysts of the broad ligament or parovarium, as the latter kind of cysts have always a limpid clear liquid."

Dr. B. F. Baer also presented the specimen and read the history of

A CASE OF BURSTING CYST OF THE OVARY.

Mrs. E. G. was sent to me by her physician, Dr. James Simpson; she was 47 years of age, and had been married twenty-seven years, but had never been pregnant; puberty at fourteen years; menstruation always painful. She stated that twelve years ago she had felt a "lump" in the left iliac region; this was painful, especially during the menstrual period. In the fall of 1885 the lower part of her abdomen began to enlarge, and within a few months it had so increased in size as to render locomotion and respiration difficult. On January 1, 1886, while riding in a street-car, she was jolted in crossing a railroad-track. She was at once seized with great pain in the abdomen, accompanied with pallor and faintness. She was taken home and placed in bed; a short time afterwards she began to vomit a fetid fluid which came up in large quantity and at regular intervals, and at the same time she passed fluid of the same character from the bowels; the next day she had, in addition, attacks of profuse perspiration; she also had a slight metrorrhagia, the first evidence of menstrual flow since January, 1884. The abdomen rapidly diminished in size, and within a week had regained its normal dimensions. It was three weeks before her strength had returned sufficiently to permit her to go about. She soon noticed that her abdomen was filling up again, and within a month it had become as large as it had been on January 1. During the first week in March she was again seized with pain of the same character, and followed as before by vomiting, purging, diuresis and diaphoresis, and reduction of the abdominal distention. All of the symptoms were more marked in the second attack. Six weeks afterwards she was as large as ever, and she then came into my care.

She presented an appearance of great pallor and commencing emaciation; the "facies ovariani" becoming plainly perceptible. She was very nervous and excited for fear of a repetition of the phenomena that had occurred before.

On examination in the dorsal position the abdomen was rather projecting, not flat, and was larger on the right than on the left side; it was smooth throughout, and gave a dull sound on percussion over the whole anterior surface, resonance existing in the line of the colon. There was marked fluctuation throughout the dull portion. Vaginal touch showed the uterus to be situated high as if it were drawn upward; it was not freely movable, and the external os was too small to admit the sound.

Diagnosis, ovarian cystic disease. Immediate operation advised.

On July 22 the operation was performed at my private hospital. Incision three inches, in median line; wall of the tumor thin and dark-colored. The trocar was passed and the contained fluid, dark in color, drained away. The cyst collapsed and was easily drawn through the incision. The pedicle was short and broad, consisting of the broad ligament, and requiring enucleation of the tumor before its ligation could be accomplished. It was now found that another tumor existed on the left side. This had a peculiar shape, being elongated, and deeply seated in the pelvis as though it were entirely sub-peritoneal. The peritoneum extended out from the uterus, spreading over the tumor, and approaching the abdominal wall as is sometimes seen in a fibroid tumor of the uterus which has pushed that membrane upward in its growth; the cyst extended along the line of the colon, and at first I was not sure that it was not that organ greatly distended by gas. I soon determined that it contained fluid, and that its general appearance, color, etc., were similar to those of that just removed. It was emptied by means of the trocar of a fluid similar to that of the first tumor, and the tumor collapsed. I hesitated as to the proper course now, because

of the large and broad base of this cyst and its close adhesion to the descending colon. I first thought of stitching it to the abdominal incision and inserting a drainage-tube into it, and was soon afterwards sorry that I did not follow out my first idea. I began an attempt at enucleation, and this was attended by so much hemorrhage from the large surface which it was necessary to dissect that I was compelled to desist. I had separated at least six inches of the descending colon from the cyst when I found that the latter dipped down so deeply into the pelvic excavation that I concluded it would be hazardous to finish the enucleation. I was in a quandary, for I had only two-thirds of the lining membrane of the cyst in my control, and I finally did what I was never compelled to do before,—and what I may be criticised for doing in this case,—I drew up as much of the cyst as was possible, threw a ligature around the mass, tied it as a bag, and cut away the external portion, thus leaving a large quantity of the lining membrane still within the pelvis. The oozing of blood from the large open surface was checked by ligatures and compression-forceps until the bleeding had ceased; the toilette of the peritoneum was then made, a drainage-tube inserted, and the incision closed. During the next few hours there was a free discharge of bloody serum through the tube, but by the next morning it had ceased. On the third day the tube was removed. The patient made an excellent recovery, and went home on the twenty-third day.

The points of interest in the case are:

1. The bursting character of both the cysts.
2. Their monocystic character and probable ovarian origin.
3. The deep attachment of the one on the left side, and its partial removal only.

"Bursting Cysts of the Abdominal Cavity" is the title of a very instructive paper which was read before the Gynæcological Society in 1881 by Dr. William Goodell, and in the paper itself and the discussion which followed it was shown that this character of tumor is not so rare as the experience of a single individual might indicate. In addition to the cases which Dr. Goodell himself reported, three in number, there were no less than ten of the members present who had met with cases of a similar character, some of the gentlemen as many as six or seven. Only two or three of the cases reported died as the result of the discharge of the fluid into the abdominal cavity. This appeared to prove that the fluid of an ovarian cyst was not so irritating to the peritoneum as had been supposed. Dr. Goodell took the position that these cysts were of the broad ligament or parovarium, and not true ovarian cysts, and, as a consequence, the fluid was bland and unirritating, being readily absorbed and discharged through the emunctories. This view is probably correct for the majority of cases, but there are others where the evidence furnished by operation has proved the origin of the bursting cyst to have been in the ovary. The monocystic character of the tumors in this case, and their location beneath the peritoneum, within the folds of the broad ligament, would seem to indicate that they originated in the parovarium and not in the ovary; but the character of the fluid and its rapid secretion are in favor of an ovarian origin.

An interesting feature in this case is the fact that the fluid was discharged by vomiting and purging, as well as through the bladder and skin, showing that it must have been emptied into the abdominal cavity as well as into the intestinal tract. From the close attachment of the tumor on the left side to the colon, it is probable that this cyst discharged itself into that organ and was thus thrown off by vomiting and purging; while the fact that diuresis and diaphoresis took place at the same time in such quantity, and that the abdominal distention entirely disappeared, would lead to the conclusion that both cysts must have burst simultaneously, the one discharging into the bowel, the other into the peritoneal cavity. This is interesting if true, and probably unique; at least I have not been able to find a record of a similar case. I examined this patient recently, and found only a slight induration on the left side; she has been quite well.

Dr. HARRIS mentioned a case of bursting cyst that had been sent to Dr. Atlee for operation after the cyst had burst once and refilled. The day had been fixed for operation, but, menstruation coming on, a postponement was made, and the cyst again burst, and the woman died in collapse. Ovarian tumor had been diagnosticated.

Dr. PARISH reported a case of rupture of an ovarian cyst which occurred in the "old women's ward" at the Philadelphia Hospital. The rupture was spontaneous while the woman was in bed; she died in a few minutes from shock. In another instance, in which rupture had not been suspected, one cyst, the contents of which were colloid, had burst, another ovarian cyst was found and removed There was no evidence of acute inflammatory action.

Dr. BAER exhibited a

FIBROID POLYPUS OF THE UTERUS.

The patient had suffered from metrorrhagia for two or three years. Labor-like pains were followed by spontaneous expulsion of the tumor, which was supposed by three physicians to be an inverted uterus: it was replaced in the vagina and tamponed. Dr. Baer found the uterus in normal position, and removed the tumor by means of the spoon-saw.

W. H. H. GITHENS,
Secretary.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held November 10, 1886, the President, JOHN A. WYETH, M.D., in the chair.

FIBROID TUMOR OF THE OVARY.

Dr. H. MARION SIMS presented a double fibroid tumor of the ovary, with the following history. The patient, aged 48 years, had borne two children, the youngest sixteen years ago. She had always enjoyed excellent health until about five years ago, when she began to suffer from bearing-down pains, pain in the back, and inability to walk or stand with comfort. About two years ago she noticed quite a large lump in the right side of the abdomen. This grew, and with its growth the pain increased in violence until a few months ago she was unable to leave the bed. Dr. Sims made the usual abdominal incision, and found a double fibroid tumor of the right ovary, with few adhesions, which he easily removed. The patient recovered without an unfavorable symptom, and had remained well. The case was interesting because of the rarity of purely fibroid tumors of the ovary.

DOUBLE ANEURISM OF THE HEART.

Dr. THATCHER presented a heart which he saw after the autopsy had been made by another physician. The history of the case was imperfect, but the woman was about 50 years of age, had had eight abortions, had an attack of rheumatism about two years ago, since when she claimed to have been unable to work, although about three days before death she was able, her friends stated, to go on a spree, to which they attributed her death. She seemed to have died of heart-failure. The heart alone came into the possession of Dr. Thatcher. It presented two aneurismal sacs near the apex, the one of the size of two fists, the other of the size of a single fist. Both had a communication with the left ventricle by an opening about the size of a match. Their walls were apparently composed of the two layers of the pericardium, which probably had become adherent to the heart by pericarditis before the ventricular openings had formed. The blood passing from the ventricle through these openings distended the sac, and formed the aneurisms. The walls of the heart were very thick, except immediately around the openings, where little else than the thin fibrous structure remained.

CONGENITAL CYSTIC DEGENERATION OF ONE KIDNEY.

Dr. L. EMMET HOLT presented the right kidney and what remained of the left, removed from the body of an infant aged 10 months. The child had dysentery, and during its illness developed albuminuria. There were no casts, and the amount of urine was normal. The autopsy showed enlargement of the right kidney. It weighed two ounces, and was the seat of acute parenchymatous degeneration, which was accounted for by the high temperature during the last week of life. The left kidney was replaced by a body about the size of a pigeon's egg, composed of one larger cyst and a number of smaller ones, held together by some loose connective tissue, and apparently containing no trace of renal tissue; the ureter was pervious to within an inch of the kidney, but was smaller than the right; the left renal artery was about one-sixth the size of the right; the bladder and genital organs were normally developed.

Dr. ROGERS also presented the kidneys of an infant illustrating the same morbid condition as the specimens presented by Dr. Holt. The history of the child was unknown. The right kidney was found normal, while the left was replaced by several small cysts.

REVIEWS AND BOOK NOTICES.

A MANUAL OF MICROSCOPICAL TECHNOLOGY, FOR USE IN THE INVESTIGATIONS OF MEDICINE AND PATHOLOGICAL ANATOMY. By DR. CARL FRIEDLAENDER. Translated, with permission, from the Second Enlarged and Corrected Edition by STEPHEN YATES HOWELL, M.A., M.D., Buffalo, New York. New York and London, G. P. Putnam's Sons, 1885. Pp. 249.

The remarkable accessions which have recently been made, to the knowledge of the etiology of infectious diseases particularly, have given to medical microscopy increased prominence. This manual treats of the technics of the microscope, the preparation of specimens, and examination of various fluids and solids.

The translator has enhanced the value of this very practical work by adding numerous notes, and by introducing an illustrated article embodying the recent discovery of the comma-bacillus of Asiatic cholera, and treating of its morphology, cultivation, staining, and examination for diagnostic purposes. The book is well printed.

NEW REMEDIES AND CLINICAL NOTES.

EMBALMING DEAD BODIES.—Dr. H. R. Tilton, Surgeon United States Army, writes from San Francisco that he has read the request of Dr. Kennedy for information as to the best, simplest, and most ready method of preserving dead bodies. He has tried the Wickersheimer formula, and says that it is an impracticable method, at least for the general

practitioner. "There is too small an amount of antiseptic material in the Wickersheimer formula to hold out any promise of success. It is impracticable for the average country practitioner to complete the process by immersing the body, after injection, in a solution, and then enclose it in an air-tight case. Fortunately, this is entirely unnecessary. The following formula will preserve the body if the injection is properly done: Take of the solution of chloride of zinc (U. S. Ph.), one gallon; solution of chloride of sodium, six ounces to the pint of water, six pints; solution of bichloride of mercury, one ounce to the pint of water, four pints; alcohol, four pints; carbolic acid (pure), one-half pint; carbolic acid dissolved in glycerin, one and a half pints. Mix all the ingredients, and a clear solution of three gallons results, which is the proper amount for a body weighing one hundred and fifty pounds. The solution may be injected into the aorta, but it is much less trouble to inject into the brachial or femoral artery, or the femoral vein may be selected. If an artery is used, the injection should be towards the capillaries, and if a vein, towards the heart. To satisfactorily inject a subject a good anatomical syringe is desirable, but a gravity-syringe can be improvised with rubber-tubing, a stopcock, and a terminal glass tube with the tip drawn to a fine point. I would suggest to Dr. Kennedy that he experiment on a few animals, and then he can devise a formula to suit himself. I have found that a fluidrachm of the solution recommended is sufficient for each ounce of weight of the animal to be preserved. For preserving human bodies, two and a half fluidounces for each pound is a safe estimate."—*Medical Record.*

Chloroform as a Hæmostatic.—Dr. Betz (*Memorabilien*, 1885, No. 5, *ibid.*) relates two cases of uterine hemorrhage in which he found chloroform of great utility in its arrest. In the first case fearful hemorrhage followed a protracted labor which had to be terminated by the forceps. There was atony of the uterus, and hot water injected into the uterus failed to produce contractions. A sponge, saturated with chloroform, was passed into the uterus, and some chloroform was poured on the abdomen. On the introduction of the sponge, a severe burning pain was felt along the genital passage, strong contractions of the uterus took place, and the bleeding ceased. The second case was one of hemorrhage following an abortion at four months, which continued in spite of the ordinary treatment, and the patient became cold and pulseless. Chloroform was applied locally to the inside of the uterus through the means of a sponge, in the same way as in the first case. The same burning pain was experienced, contractions of the uterus took place, and an arrest of the hemorrhage ensued. The action of chloroform, Dr. Betz observes, differs from that of the ordinary astringents, not inducing coagulation of the blood as they do, but causing narrowing and closure of the blood-vessels in consequence of muscular contraction. The use of chloroform in this way may supersede the hypodermic injection of ether.—*New York Medical Journal.*

MISCELLANY.

Harvard's Jubilee Honors to Physicians.—The two-hundred-and-fiftieth anniversary of the founding of Harvard University was observed with impressive ceremonies last month, the exercises continuing for four days. Honorary degrees were conferred upon a number of distinguished persons, among whom were Joseph Leidy, M.D., Professor of Anatomy in the University of Pennsylvania, S. Weir Mitchell, M.D., of Philadelphia, and J. S. Billings, M.D., of Washington, D.C.

Pennsylvania School of Anatomy.—Dr. George McClellan will give, by request, a course of popular lectures on anatomy on Friday afternoons at 4.30 o'clock. The course is especially designed for instruction in anatomy with reference to art, and it will be illustrated by diagrams, preparations, models, and extempore free-hand drawings.

The Philadelphia School of Anatomy, located at Tenth and Arch Streets, is conducted by Henry C. Boenning, M.D., who also gives courses on operative surgery to students and graduates.

Colden's Beef-Tonic is used with advantage by some physicians in this city in the nervous disorders accompanying malnutrition.

NOTES AND QUERIES.

OBITUARY.

John P. Gray, M.D., LL.D., Superintendent of the New York State Lunatic Asylum at Utica, New York, died at the Asylum on Monday, November 29, 1886, of Bright's disease. Dr. Gray was born in Centre County, Pennsylvania, August 6, 1825. He was educated in the common schools at Bellefonte and at Dickinson College, receiving the degree of A.M. in 1846. His medical degree was received at the University of Pennsylvania in 1848. After serving for a time at Blockley, he went to Utica in 1851 as an assistant physician. In 1853 he was appointed Acting Superintendent, and in 1854 succeeded Dr. Benedict as Superintendent.

As Superintendent of the Asylum, Dr. Gray made himself felt in a way that had a more than local influence. He insisted upon a high standard of general and professional care, and carried his views into every department of asylum administration.

He early established the rule of receiving for assistant medical officers young men of thorough medical training, making general hospital service a prerequisite to appointment. As a result of this high standard and the training received under Dr. Gray, no less than six State asylums have called their superintendents from Utica since his appointment as its chief medical officer.

He took an active interest in hospital architecture, and was the author of the plans for the asylums at Kalamazoo, Michigan, and Buffalo, New York.

As the editor of the *American Journal of Insanity*, and

in addresses before medical societies and other scientific bodies, Dr. Gray contributed largely to the literature of Insanity and Medical Jurisprudence. He was an earnest advocate of the physical basis of insanity, and early omitted from his reports any enumeration of the so-called moral causes.

He took a strong interest in pathological investigations in insanity, and nearly thirty years ago contemplated and suggested the institution of systematic pathological study in the Asylum. It was not, however, until several years later that he was able to put his views into practical operation, when he was the first superintendent to appoint a medical officer in an insane asylum for special pathological work.

The high standard of care of the insane attained by the State of New York is largely due to the influence of Dr. Gray, and the example of Utica has been widely felt, and for good. He was a man of positive ideas, and seldom permitted opposition to intimidate or influence him. In any body of men he made himself felt, and, while in many matters of a conservative tendency, his influence was always in the direction of advance.

As a medical witness in cases of public interest he was widely known. His most exhaustive services in the Guiteau trial are probably the best remembered. During the war, he several times gave the government the benefit of his advice, and his services were employed in the trial of the Lincoln assassins.

In 1874 he was appointed Professor of Psychological Medicine in Bellevue Hospital Medical College, and in 1876 received a similar appointment from the Albany Medical College. Both of these positions he filled with ability. He was a member of the American Medical Association, at one time President of the New York State Medical Society, and recently President of the New York State Medical Association. In 1876 he was chairman of the Psychological Section of the International Medical Congress, and he held the same appointment for the Congress of 1887. He was a member of the Association of Superintendents of Asylums for the Insane, and once its President. The British, French, and Italian Medico-Psychological Associations elected him to honorary membership.

In 1882, Dr. Gray was shot by an insane man resident in the city of Utica. The ball from a large navy revolver entered over the left malar prominence and came out at the centre of the right cheek. From the shock of this, although the wound was not serious, he never fully recovered, and the impediment to free respiration produced by the cicatrization in the course of the bullet, which traversed the floor of each nostril, was a continual source of annoyance.

In the winter of 1885–86 his health became seriously impaired, and the managers of the Asylum gave him leave of absence. He spent some weeks in the South, and returned much improved. In July he sailed for Europe, returning early in October. He felt that the trip had been of benefit, but shortly after his return he was exposed to cold, had a chill, some bronchitis, considerable dyspnœa, and disturbance of circulation. His kidneys had been diseased for some time, but a more active process was lighted up, which terminated in death from uræmic coma.

In his death the profession of medicine has lost an active and earnest practitioner, one who in his special department has added honor and reputation to American medicine, and whose work as an alienist will long continue to influence for good the public care of the insane. E. N. B.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 21, 1886, *TO DECEMBER* 4, 1886.

Lieutenant Colonel B. J. D. Irwin, Assistant-Medical Purveyor.—Relieved from temporary duty in New York City, and of the charge of the medical purveying dépôt in that city, and ordered to San Francisco, California, to take charge of the medical purveying dépôt in that city. S. O. 270, A. G. O., November 19, 1886.

Major F. L. Town, Surgeon.—Ordered from Fort Clark, Texas, to Post of San Antonio, Texas, to relieve Surgeon J. P. Wright. S. O. 159, Department of Texas, November 15, 1886.

Major Joseph R. Gibson, Surgeon.—Ordered for duty as post-surgeon, Fort Lyon, Colorado. S. O. 134, Department of Missouri, November 20, 1886.

Major Daniel G. Caldwell, Surgeon.—Granted twenty days' extension of his leave of absence. S. O. 278, A. G. O., December 1, 1886.

Captain P. R. Brown, Assistant-Surgeon.—Leave of absence for seven days, granted by post orders, is extended twenty-three days. S. O. 124, Department of Arizona, November 24, 1886.

Captain E. B. Moseley, Assistant-Surgeon.—Relieved from duty as attending surgeon in San Francisco, California. S. O. 99, Division of the Pacific, November 19, 1886.

Captain Edw. B. Moseley, Assistant-Surgeon.—Directed to take charge of the medical purveying dépôt, San Francisco, California, until the arrival of a proper bonded officer. S. O. 99, Division of the Pacific, November 19, 1886.

Captain Louis S. Tesson, Assistant-Surgeon.—Granted leave of absence for four months, to date from November 13, 1886. S. O. 278, A. G. O., December 1, 1886.

Captain J. L. Powell, Assistant-Surgeon.—Ordered for duty as post-surgeon, Fort Supply, Indian Territory. S. O. 134, Department of Missouri, November 20, 1886.

First-Lieutenant Peter R. Egan, Assistant-Surgeon.—Assigned to duty at Fort Clark, Texas. S. O. 162, Department of Texas, November 22, 1886.

First-Lieutenant William J. Wakeman, Assistant-Surgeon.—Leave of absence extended three months. S. O. 274, A. G. O., November 26, 1886.

First-Lieutenant W. D. McCaw, Assistant-Surgeon.—Granted leave of absence for two months, to take effect when his services can be spared. S. O. 274, A. G. O., November 26, 1886.

First-Lieutenant Freeman V. Walker, Assistant-Surgeon.—Assigned to duty at Fort McIntosh, Texas. S. O. 159, Department of Texas, November 15, 1886.

First-Lieutenant Paul Clendenin, Assistant-Surgeon (recently appointed).—Ordered to report to commanding general, Department of Texas, for assignment to duty. S. O. 271, A. G. O., November 20, 1886.

First-Lieutenant Paul Clendenin, Assistant-Surgeon.—Assigned to duty at Fort Davis, Texas. S. O. 166, Department of Texas, November 29, 1886.

First-Lieutenant C. L. G. Anderson, Assistant-Surgeon (recently appointed).—Ordered for assignment in Department of Arizona. S. O. 277, A. G. O., November 30, 1886.

First-Lieutenant Robert R. Ball, Assistant-Surgeon (recently appointed).—Ordered for duty in Department of the Missouri. S. O. 278, A. G. O., December 1, 1886.

Captain Henry Johnson, Medical Storekeeper, will, in addition to his present duties, assume charge of the medical purveying dépôt in New York City, as Acting Assistant Medical Purveyor. S. O. 270, A. G. O., November 19, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDED DECEMBER 4, 1886.

Surgeon Homer L. Law, U.S.N.—Ordered before the Retiring Board, December 2, 1886.

Passed Assistant-Surgeon George C. Lippincott, U.S.N.—Ordered before the Retiring Board, December 6, 1886.

Surgeon William G. Farwell, U.S.N.—Detached from the "Kearsarge," proceed home, and wait orders.

Passed Assistant-Surgeon J. D. Gatewood, U.S.N.—Detached from the "Kearsarge," proceed home, and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDED NOVEMBER 27, 1886.

Williams, L. L., Assistant-Surgeon.—Granted leave of absence for twenty-four days, to take effect when relieved, November 15, 1886.

McIntosh, W. P., Assistant-Surgeon.—Granted leave of absence for twenty-seven days, November 26, 1886.

Norman, Seaton, Assistant-Surgeon.—When relieved, to rejoin station (New York); granted leave of absence for twenty-three days, November 27, 1886.

PHILADELPHIA, DECEMBER 25, 1886.

ORIGINAL LECTURES.

CLINICAL LECTURE
ON LATERAL CURVATURE OF THE SPINE.

Delivered before the Class at the Polyclinic

BY VIRGIL P. GIBNEY, M.D.,
Professor of Orthopedic Surgery in the New York Polyclinic.

GENTLEMEN,—We will devote most of this hour to a study of rotary lateral curvature of the spine.

The definition of lateral curvature is simple enough. The term is usually employed to indicate a deviation of the spinal column to one or the other side. The technical name for the condition is scoliosis. It has been called rotary lateral curvature to distinguish it from simple lateral curvature, a curve which is compensatory. Some cases of lung and pleural disease produce lateral curvature, strictly speaking: they constitute about the only cases in which you have simple lateral deviation of the spinal column. Nearly all cases of lateral curvature are not simple, but rotary in character, and the name itself is a sufficient definition to one who knows the meaning of the words rotary, lateral, and curvature.

The etiology is obscure. It is almost as obscure as that of club-foot. A number of theories have been advanced to account for it by different authorities. Many of these theories are worthless. It is usually observed—and this is the foundation for one of these theories—between the ages of eight and fourteen years. It occurs in boys or girls who work in shops, or in school-children who habitually assume a vicious position while sitting or standing. The patient is usually not brought under the notice of the physician until he has reached the age of twelve or fourteen years. Generally, one feature will be observed in these cases, especially in girls: namely, the projection of one scapula backward and upward. Careful inquiry into the history of such a case will usually reveal the fact that the deformity was observed some time before by the dressmaker and the mother in fitting the clothing; but they probably had explained it on some other hypothesis than that which the physician would accept.

It has been thought by some observers —I give you now the principal theories which have been offered in explanation of the deformity—that in early life, during the rachitic age, as it has been called, when the bones are soft and poorly nourished, the child sustains a fall or a strain, or some other injury, or is carried on one side too much, so that pressure is brought to bear unequally upon the bones, especially upon the articular facets for the transverse processes of the spinal column, in a way to produce slight changes in the planes of these surfaces, so slight as to pass unrecognized; but they become manifest at the age for assuming awkward positions. The subjects of this disorder will then be found, when standing, to support themselves upon one hip, with one leg advanced. At the desk they sit with one leg advanced and the other retracted; one shoulder is more elevated than the other, and the body is twisted. Children with this deformity naturally assume these positions, while others who are healthy will be observed to sit and stand upright, and to have an easy carriage. Children who seek to rest themselves by assuming these awkward positions are objects of suspicion, as they are the subjects who usually acquire lateral curvature. That constitutes one theory of the production of the deformity —*i.e.*, the theory of position. Back of all this, there is in these children a predisposition; and when to this is added the weight of the head and trunk in awkward positions, we have a further cause of the deformity.

I show you here a model of the spinal column, the vertebræ being strung on wire in such a manner that when you press on a spring at the top it causes deflection and rotation, proving that downward pressure is an important element in the production of lateral curvature.

There may be also an asymmetry of the bones. The vertebræ may be ill shaped, just as one leg may be longer than the other. This variation from the normal may be only very slight; but it is not necessary that there should be a marked deformity of the vertebræ in order to constitute a starting-point for lateral curvature of the spine. Having this focus, one articular facet for the transverse process being tilted

down a little, there commences a rotation, and this is further aggravated by the weight of the head and neck, as well as by bad posture in sitting or standing.

The usual age for the occurrence of lateral curvature, as I have said, is from the sixth to the eighth and from the eleventh to the twelfth years; but it has also been observed at the fifth year, and even at an earlier age than this.

The pathology is a rotation of the vertebræ on the vertical axis with a little deflection, giving rise to changes in the general form of the body quite evident during life.

A marked case of the kind I now show you in this girl. You will notice in the lower and middle dorsal region of the spine a curvature, the convexity of which is towards the right, and on that side you will notice that the ribs stand out sharply, while on the opposite side they are flattened. As the patient bends forward, you will notice a prominence of the muscles over the transverse processes on the side of the convexity, while on the left or concave side there is no such ridge at all. That is explained by the fact that as the vertebræ rotate they bring out the muscles on the convex side prominently, while those on the other side are concealed; they are still just as prominent, but are not manifest to the sight. Again, as she bends forward, you can trace the spinous processes down to the point of greatest curvature, and there the muscles stand out so prominently that you lose the processes. Farther down they reappear; but by pressing firmly with your fingers you can find them, even at the point of greatest curvature, but directed towards the concave rather than towards the convex side. There is also a projection of the right scapula, quite marked in this case: it is raised on a higher plane than the other; on the concave side the inferior angle of the scapula stands out much farther from the ribs. On the left side the ilio-costal space is much deeper than on the right side.

It is by making a careful and critical examination, just as we are doing now, that you will be enabled to detect cases at an early date. You will make the patient bend forward; your attention will be called to an absence apparently of a spinous process, no lateral deflection having yet taken place; and it is this point, where, on running your finger down the course of the spinous processes, you find them least prominent, that is the place of beginning rotation. Another early symptom is weakness of the back, especially if the patient be a girl.

This patient has a mine of pathological anatomy in her person. It is a case of old ostitis, or hip-joint disease, subjected to various modes of treatment, and finally to Volkmann's operation, removing a wedge-shaped piece from the neck of the femur, and afterwards to a similar operation below the trochanter minor.

The history of her spinal curvature is this. About two or three years ago, while she was an inmate at St. Luke's Hospital, I was asked to see her with regard to disease of the hips. She had had one hip operated upon; but it was found that the other hip was diseased also. On examination, it was noticed that there was marked lordosis, or a tilting forward of the spine in the lumbar region when an attempt was made to bring the limbs down to a straight position. This led to a careful examination of the spine by Dr. Bull and myself, and we found no deviation whatever; no scoliosis. A little digression here for definitions will be of service. By kyphosis we mean a projection backward, by scoliosis a lateral deviation, and by lordosis an antero-posterior curvature. Those of you familiar with horses have probably seen among them what is called a "sway-back" horse, the animal presenting a marked antero-posterior curvature of the spinal column.

This girl had then a marked lordosis; but no scoliosis whatever was observed. She had this shortened limb and wore a high shoe; but the shoe was defective. It wore out frequently, and she was half her time limping and leaning over to one side. Her present very great deformity in the form of lateral curvature of the spine is due almost entirely, I think, to this shortened limb. And that is a cause of the deformity which I had not spoken about, it being one usually regarded as purely theoretical. But I have now seen two cases of lateral curvature occurring at from twelve to fourteen years of age in patients whose limbs were unequal in length. I have records of the cases, the date of development of the spinal deformity, and I feel sure that no other cause can be found than that of a shortened limb.

So this patient had a shortened limb,

and after disappearing from my view for about a year and a half she returned with this marked deformity of the spine. You can now see to what extent the spine straightens on suspension. By making pressure over the point of greatest curvature and making extension from the hip on the opposite side, I can in some degree lessen the deformity over the correction produced by suspension. You will bear this fact in mind, as it will aid you in the choice of treatment. Suspension shows more plainly the degree of the deformity present, as it raises the left scapula and brings the ribs into prominence.

Another point in the case is atrophy of the right mamma, and this is a very common and a very persistent sign of lateral curvature in the female. There is always atrophy of one breast, which is among the early symptoms in the course of the spinal deformity. If, on examining a girl for curvature of the spine, you find the breasts equal in size, you can question the diagnosis of lateral curvature. Now, as this patient is suspended, you will notice that her whole body is thrown to the right side, and that on the left side there is a deep ilio-costal space, and a very shallow one on the right side.

About six or seven years ago she showed a deformity, the thigh being fixed at an acute angle and strongly adducted, so that the genitals could scarcely be seen. There was also a stiffness of the other hip, which, however, had not attracted much attention. She entered St. Luke's Hospital to have the operation performed known as Volkmann's wedge-shaped operation for the relief of the deformity of the hip. It was performed under antiseptic precautions; the limb was placed in a correct position, and dressings were applied, including the use of the weight and pulley. The patient was kept quiet for five or six weeks, and the result was a very good one. Subsequently I was asked to see her about a tilting of the pelvis forward. What you see now is what was found: a marked lordosis. The left leg was a fair limb, taking it all in all. The right was strongly adducted; there was subluxation at the knee; the hip was locked at an angle. Yet with all the shortening on the right side and this amount of deformity, she could walk about pretty well; and this, it seems to me, is an astonishing feature in her case. There is also present a marked genu-valgum. Nothing was done for her during the early years of her disease except to give cod-liver oil and tonics. She walked about when she could, and remained quiet when she could not walk. She was blistered occasionally over the hips. Then there was a remission of the active symptoms for some time, and she went about by the aid (?) of a spica bandage, but her gait grew worse. Finally, she was quite unable to walk. All this time she had received no mechanical treatment. I had her referred to St. Luke's Hospital for an operation, and then we found some disease also in the left hip; but this hip was not much deformed.

Before proceeding further and speaking of the treatment of this case, I will call your attention to a patient who is in the waiting-room. At our last clinic I was speaking of the necessity of recognizing Pott's disease before marked deformity occurred. This patient has been coming to our clinic for a year or longer. He had chronic inflammation of the knee; his little sister had Pott's disease. They live in Waterbury, Connecticut, and had been in the habit of coming down once in three or four months. The little girl died last summer of some one of the diseases of childhood. When this boy was here on Saturday last, I was taking the plaster off his knee, and at a particular moment I happened to notice his chin resting on the sternum. He was coughing, and the cough seemed somewhat paroxysmal and unlike an ordinary bronchial cough: he seemed to have some distress. I then placed my hand on the back of his neck, and discovered a slight deformity in the cervical region. This, of course, was a very mortifying discovery, but I had not seen the boy since last summer. You will notice two or three of the spinous processes of the cervical vertebræ projecting. He has also a chronic ostitis of the left knee, for which I had been treating him, and on Saturday I also found an ostitis of the right knee. The father has noticed the boy coughing some for the last few months, and for the last few weeks holding his neck stiffly. This case illustrates the importance of always examining the patient thoroughly from head to foot. Sometimes you will find on undressing a seemingly well-formed child a large deformity of the spine,—a knuckle which has been present probably for two or three years. The

joint-symptoms which you may be treating may mask the spinal symptoms, or symptoms of disease in some other joint.

With regard to the treatment of rotary lateral curvature, if you see the patient in the early stages of the disease, before there is much deformity, there being, however, a slight tendency to favor one limb, and slight projection of the scapula, it will be better to treat the case for a while by gymnastic exercises. Observe that I say for a while, and I use the term advisedly. I do not want to convey the idea that you should order a course of gymnastic exercises for the child, and tell the parents to "bring it back in the course of a few months." You should keep a close watch on the patient. It is best to give at first the benefit of gymnastic exercises alone. Let the patient swing on a parallel bar while resting on his hands, allowing the weight of the lower limbs to straighten the spine; or he can use dumb-bells, or go through almost any other exercise which you can readily devise, and which will bring the muscles into play equally. Developing the muscles and placing the child in a better state of health will at the same time tend to correct the deformity. Then you should caution the mother and the patient about those awkward positions before alluded to. The child should have a chair made especially for its use: it should be just as high as the distance from the popliteal space to the bottom of the foot; its depth should be equal to the distance from the coccyx to the popliteal space,—that is, a good, generous chair, neither too high nor too low. It is also a good plan for the parents night and morning, when the child is nude, to correct the deformity themselves. If the gymnastic exercises can be made a matter of pleasure, by the addition of music or other means, it will be all the better. These exercises should be practised for two or three months under the guidance of the physician. If he finds, then, that there has been no change in the deformity, or that there has been an increase, he should lose no time in employing an apparatus. The apparatus is not intended to correct the deformity, but to prevent further deformity. Self-suspension by means of one of these swings or by pulling one's self up on a horizontal bar will bring the spine into a straight line, and then any apparatus which will hold it so, whether made of steel, felt, or other material, will be a good brace. I am in the habit of using almost exclusively the plaster-of-Paris corset, for the reason that I renew it every two or three months. It fits perfectly: I can trim it out where it chafes, and when it begins to crumble or break down it is time to make another jacket in order to get an improved position. The child having been exercising all that time, I expect to get an improvement in position every time I renew the jacket.

It has been objected to the plaster jacket that it produces atrophy of the muscles and thus retards any corrective process in the spinal column. This presupposes that the deformity is partly muscular, and that the muscles must be fully developed in order to prevent deformity. But that theory has long since been abandoned, and the deformity is now looked upon as being due to a change in the bone,—not a morbid process especially, but simply pressure brought to bear upon certain processes which cause tilting and rotation. The jacket might produce a certain amount of atrophy in the muscles if it were worn all the time, but it is not worn at night. It is taken off some time before going to bed, kept off during the night and for some time in the morning, and the child then is induced to take exercise which it would not take voluntarily throughout the day. As the jacket is not worn at night, the muscles have opportunity to grow, and in the recumbent posture the spine is nearly straight.

About half of the cases in this country and in England are treated without any apparatus. Some system of exercise is usually adopted. Mr. Bernard Roth, of London, has a system of twelve or fifteen different movements through which he puts patients. The patient lies prone upon the floor and goes through these various movements, and during a part of the exercises the physician's foot rests upon the patient's pelvis. As I have witnessed the procedure, it is quite an amusing spectacle. It is rather embarrassing for a young lady to go into a doctor's office, bare herself down to the hips, lie prone upon the floor, twist herself around like a serpent, and bring herself up on all fours with the doctor's foot on her pelvis. There is still a certain amount of modesty left in all classes of society, and the method seems objectionable for this reason.

In the later stages, where deformity is pronounced, bony changes have taken place and the ribs project, and such cases defy nearly all treatment. It is for these cases that the different forms of apparatus have been constructed. One of these apparatuses is that used at Forty-Second Street Hospital. It consists of a frame with a leather plate on the side of the convexity where it makes pressure. Dr. Taylor uses his spinal assistant modified, and Dr. Shaffer also has a modified apparatus of the same kind with a pelvic band. To show how inefficient this system of pressure upon the convexity of the spine is, you can press upon the projection with your hand and it will be apparent that by so doing you only flatten or press down the ribs and bring them in closer contact with the spinal column. If a means of pressure could be devised by which the deformity could be unrolled, the spinal column untwisted and brought around into its correct position, the pressure might prove of some benefit in correcting the deformity. But no one of the fixed forms of apparatus with which I am acquainted accomplishes this object. In a hospital in Great Britain I saw a bed or frame by which it was attempted to squeeze or press the patient into shape: an immense lever- or screw-power is brought to bear with this object in view.

For the treatment of a case of rotary lateral curvature of the spine you should have a suspension apparatus like the one here used, the ordinary tripod and swing; next learn what faulty positions your patient is in the habit of assuming, and correct them, attending at the same time to the general health. If the patient can go into the country, so much the better. I have very seldom seen cases of lateral curvature developed outside of cities, though I have seen a considerable number of cases from country towns and from the suburbs of larger towns, as well as from cities. In cases of slight deformity, obedience to general instructions has succeeded in correcting the condition. But in a case of this kind you cannot hope to correct the deformity beyond a slight degree, but you may hope to put the spinal column into better shape by suspending the patient and maintaining the position thus assumed by means of apparatus. When the jacket is off I will have the parents practise this movement twice a day; that is, with one hand in the axilla grasping the left shoulder, and the other over the ribs of the projecting side, make passive movements for ten or fifteen minutes as if attempting to untwist the rotated spinal column, then let the patient hold on to the end of the table or head-board of the bed on which she is lying, while traction is made on her pelvis. This is hard work; but I have seen benefit result from it. Electricity is often employed, applying the electrodes over the convex side. I think the faradic current tends to develop the weak muscles of this side.

Now as to the plaster jacket. In the first place, the patient must have a seamless, skin-fitting merino shirt, long enough to serve as an outside covering for the corset when doubled back upon it. These shirts are made to order at two different places in this city, on receipt of the following measurements: the circumference of the chest, of the loins, of the hips, and double the distance from the top of the shoulder to the trochanter major. The shirt should be put on wrong side out. Use good plaster of Paris (and, let me remark, there is none better than the S. S. White Company's dental plaster: it comes in six-quart cans, and is convenient for use). As to the roller bandage, I think smooth crinoline sized with starch is preferable. The roller may be two and a half inches broad and six or more yards long. The mammæ can be protected with some cotton batting, and a folded towel can be placed in the space under the scapula on the concave side. The best dinner-pad is a full dinner just before applying the jacket. You then should have the meshes of the crinoline bandage filled with the plaster of Paris, and when ready to begin the application the bandages should be placed in warm water. It is not necessary to put salt or other material into the water to hasten the drying of the jacket: these agents merely tend to crumble the plaster and cause the jacket to break down.

As you apply the bandage, wrapping it in successive layers around the patient's body, let an assistant follow you, rubbing and smoothing it down with both hands. Then place a little cotton pad or soft felting over the salient points; otherwise the patient will complain of its chafing. Here, for instance, is a salient point over the coccyx, and another over the ilium, near the anterior superior spinous process, and at each of these places I lay a little

cotton. If the jacket is not made comfortable and well-fitting, your practice will tend to bring this system of treatment into disrepute. After applying the jacket, and waiting until it has sufficiently dried, you cut it down the front with a pruning-knife, and wait again until it has still further hardened. You can now take the jacket off, trim the top and bottom, under the axilla, and over the crest of the ilium, but do not take off too much,—only a sufficient amount to make it even. Then lay it aside until the next day, when the patient should again visit you. Let the patient wear a skin-fitting shirt, and, while partially suspended, you can apply the jacket and secure it with a roller bandage. Trim at the points where it chafes, top and bottom, in order to secure a perfect fit. Let the jacket project well down over the pubes. Dry the rude corset for twenty-four hours over a range, having it covered with paper, but turning it over two or three times during the drying process; that will make it hard and tough. Then turn the shirt over at the top and bottom and sew it, and trim the edges with chamois or moleskin. Finally, with an awl and a strong thread, fasten a strap with shoe-hooks up the front, and you will have a strong, neatly-fitting jacket.

ORIGINAL COMMUNICATIONS.

REPORT ON RECENT PROGRESS IN THERAPEUTICS AND MATERIA MEDICA.

BY FRANK WOODBURY, M.D.,

Professor of Materia Medica and Therapeutics and Clinical Medicine in the Medico-Chirurgical College of Philadelphia, etc.

THE ACTION AND THERAPEUTICAL VALUE OF VEGETABLE ASTRINGENTS.

THE vegetable astringents in common use owe their value to the presence of tannic acid; but the chemical composition of the tannic acid is not identical in all, the variety being designated in each case by a prefix indicating the source, as kino-tannic, catechu-tannic, etc. They all, however, have in common the property of precipitating albumen and gelatin from watery solution, and of converting raw hides into leather. In addition, they produce an astringent taste in the mouth, and give color-reaction, green or blue, with persalts of iron. The different varieties do not exert exactly the same effects, partly because they exist in different combination, but further because they seem to have different powers of precipitating albumen.

Gallic acid differs from the foregoing description in several important particulars. It does not precipitate albumen or gelatin; it does not tan; and its astringent taste is hardly perceptible.

Pyrogallic acid, while also capable of precipitating albumen, differs widely in most other respects from tannin.

From experiments made in the laboratory of the University of Edinburgh, Dr. Ralph Stockman* was led to the following conclusions:

Gallic Acid.—Either when locally applied or after absorption into the blood, gallic acid evidently exercises no other action than that of a weak inorganic acid, and certainly has no claim to any special action as an astringent. The only action which it can have in this direction is the power which it possesses, in common with all other acids, of diminishing the alkalinity of the blood, and thereby increasing its tendency to coagulate. Stronger acids, however, will act much more powerfully in this direction than it does. Any influence in lessening the calibre of the blood-vessels, either by peripheral or central action, must be denied to it. When locally applied, the fact that it does not precipitate albumen must prevent its having any influence on a catarrhal inflammation.

Tannic Acid.—Locally applied, its action for good depends on its power of precipitating albumen, the layer of tannate of albumen which is formed acting as a protective to the underlying mucous membrane. To this action is due its value in catarrhal inflammation of the alimentary canal and in discharging surfaces generally.

The experiments have shown, however, that its usefulness is limited to such cases, and that as a remote astringent it is valueless. In weak solution and uncombined, its action on contractile tissues, such as the vascular walls, is simply that of a dilute acid, while it is only when stronger solutions are used (much stronger than can

* Report to the Scientific Grants Committee by Ralph Stockman, M.D., read in the Section on Therapeutics at the Meeting of the British Medical Association at Brighton.—*British Medical Journal*, December 4, 1886.

ever exist in the blood, even if it were not in combination there) that its power of precipitating albumen comes into play. When its chemical affinities have been satisfied by neutralizing it with a base or with albumen, it is no longer capable of precipitating albumen, and exercises, therefore, little or no influence on the parts with which it comes in contact.

Independently of these considerations, the very small quantity in which it exists at any one time in the blood, and that in combination, must also militate against its having any remote action. As we have seen, the only channels of excretion besides the bowels are the kidneys, and hence it is hardly possible that it can have an astringent action on any of the other mucous membranes, such as the bronchial. It is now almost an axiom in therapeutics that substances which do not possess a very decided general action can affect only those mucous membranes by which they are excreted, and it is improbable that tannin is any exception to this.

With regard to its action on the kidneys, it is conceivable that it may have a favorable influence in diminishing albuminuria, but even this is to be regarded as doubtful. Many eminent clinicians have expressed disbelief in its value, and the only cases which the reporter had been able to find, in which the amount of albumen was carefully estimated from day to day, tend to confirm this view.—(Cases of Briese, *Deutsches Archiv für Klin. Med.*, 1883.)

[In the four cases referred to reported by Briese the administration of the tannate of sodium for long periods had no influence either on the amount of urine or the albumen present in it. It will be noticed that Dr. Stockman has previously declared that when its chemical affinities are satisfied with a base it exercises "little or no influence on the parts with which it comes in contact." It is difficult to understand why the results from the tannate of sodium were considered as warranting the conclusion that tannic acid is ineffective in cases of albuminuria to reduce the amount of albumen. Clinical evidence is not wanting that tannic acid is useful in nephritis, reducing the proportion of albumen and favorably influencing nutrition.]

PIPERINE IN OBSTINATE INTERMITTENTS.

Dr. C. S. Taylor recommends piperine as an excellent addition to the treatment of malarial attacks, especially when they resist the use of quinine. In an obstinate case he gave three grains of piperine every hour for six hours, and on the following day the same quantity every three hours. As soon as the paroxysms were checked he gave—℞ Pilulæ hydrargyri, gr. j; piperinæ, gr. ij; quininæ sulphatis, gr. iij, morning, noon, and night, for a few days. Should the second paroxysm be escaped, the following pill was ordered every third hour: ℞ Piperinæ, gr. v; mucilaginis acaciæ, q. s. M. It is now three years since the above patient was treated, and she has continued free from the malady.

In another case, one of congestive chill, five grains of piperine were given at once, followed by brandy and champagne, and the patient was directed to be wrapped in blankets and external heat applied. Afterwards full doses of the aromatic spirit of ammonia were given every third hour, and the champagne was continued. When reaction was established, and the sweating-stage began, five grains of piperine were ordered every two hours and continued for four days; subsequently a grain of blue mass was added to each pill, and a saline purgative given. The patient's health was perfectly restored. Patients sometimes object to quinine on account of its affecting the head, but no such effect was observed from the piperine, although it is a powerful stimulant, carminative, and febrifuge.—*British Medical Journal*, September 4, 1886.

PIPERONAL.

Piperonal, an aldehyde corresponding to piperonilic acid, is obtained by the oxidation of piperine. It forms small, white, prismatic scales, and possesses a strong odor of vanilla; a small quantity placed upon the tongue produces a sensation analogous to but more persistent than that caused by mint. It melts at 125° F., and at a higher temperature volatilizes completely. When ignited it burns with a flame and smoke like those of camphor. It is insoluble in cold water; in hot water it melts and appears like drops of oil; it is readily soluble in alcohol and in ether. According to Frignani (*Giornale Internazionale delle Scienze mediche*), it possesses both antipyretic and antiseptic properties, which, while not very decided, are yet in many cases sufficient. It has been given in fifteen-grain doses repeated every two

hours or three or four times a day. The most noteworthy disagreeable effects are nausea, eructations, and dryness of the throat. As an antiseptic piperonal is very efficient, and will no doubt take high rank among other agents of this class.

SANDAL-WOOD OIL IN URETHRITIS.

The general indifference or distrust of oil of sandal-wood is apparently due to the fact that, owing to its high price, it is extensively adulterated with copaiba or castor oil. The pure oil is clear, light yellow in color, and very pungent on the tongue, with a characteristic odor. When tested (Dragendorff's test) with a five-per-cent. solution of bromine in alcohol, if a few (ten to fifteen) drops of this test be mixed with one of the oil, the color becomes a brownish violet, and later on a dark blue. Dr. Letzel, of Munich, has communicated (*Allg. Med. Central-Zeitung*, Nos. 76–78, 1886) the results of his experience in the treatment of gonorrhœa with this agent. He used gelatin capsules, two or three of which, each containing five minims of the oil, were taken three times a day. Of ninety-seven patients thus treated, four had gastro-intestinal disturbance: two of these had violent diarrhœa, and the other two severe dyspepsia. Eructations and burning sensations in the stomach were often noticed in the rest, but the drug was persisted with. It should not be given on an empty stomach. One bad symptom, which occurred in five cases out of the whole ninety-seven, consisted in severe pains over the kidneys. It is better tolerated, however, than copaiba. The results were:

1. Given in an early stage, the secretion diminished rapidly and the pain on micturition ceased,—this in thirty-seven out of forty-two cases.

2. If, after ten or twelve days, the oil be discontinued, the old symptoms reappear.

3. The best results were obtained when the oil was commenced in the third or fourth week of the gonorrhœa, together with the use of weak astringent injections.

4. Cystitis and gonorrhœal prostatitis were always greatly benefited by the oil.

5. Cases of gleet did best under local treatment.—*British Medical Journal*, December 4, 1886.

THE USE OF OXYGEN-INHALATIONS IN PULMONARY PHTHISIS.

The chemical and some of the physiological relations of oxygen are beginning to be discussed, though they are not yet properly appreciated, by the masses. This has been partly brought about by the advanced state of popular scientific education and partly by the persistent and elaborate advertising in the secular press, not omitting religious and scientific journals. It is known by intelligent people that various "oxygen cures" and "home treatments" are purely commercial enterprises; and yet this form of treatment has become so popularized that physicians are beginning to give oxygen by inhalation a trial in chronic pulmonary affections under strict scientific conditions. Dr. Wallian (*Medical Bulletin*), in a paper entitled "Suggestions to Oxygen-Users," calls attention to several sources of failure which may cause disappointment and bring this method into unmerited disrepute. These are: (1) impure gas; (2) want of discretion in the selection of cases; (3) injudicious exhibition; (4) neglect to regulate the personal habits of the patients; (5) failure to enlist rational and necessary auxiliaries; and (6) want of due perseverance. He recommends the use of pure chemicals and the manufacture of the gas as required. The temperature employed to generate the gas should not be excessive. The gas should stand over fresh water for twenty-four hours before being used, and then passed through a series of wash-bottles, first through solutions of potassium permanganate (℥j ad C.j), and caustic soda or potash, and finally through several bottles of pure water. Three cardinal points are mentioned as being important in the administration as contributing to the success of the treatment: (1) See that the patients breathe properly by thorough inflation of the lungs. (2) See to their diet; select a regimen carefully, combining all the essential food-elements in due proportion and at the same time attractive and appetizing to the patient. Improve nutrition. (3) See that the functions of the skin are maintained by baths. Finally, quiet the apprehensions of the patients, and teach them to be content with slow progress in removing diseased conditions and restoring normal functions.

LIQUOR MAGNESII BROMIDI.

The following is used as a sedative in the Philadelphia Hospital. Add to acid hydrobromic, dilute, f℥xvj, sufficient magnesium carbonate to neutralize it (about a

troy ounce will be sufficient). Each teaspoonful will contain nearly seven grains of anhydrous magnesium bromide. The advantages are that this is easily prepared; that it contains more combined bromine than any other bromide (with the exception of lithium bromide); that it is constant in strength, and that its cost is moderate. —Joseph W. England, Ph.G., *American Journal of Pharmacy*, November.

COCAINE.

Marvellous cases are reported in the journals of cocaine-poisoning from moderate doses of cocaine, and a death of an adult has been attributed to painting the larynx with a two-per-cent. solution.* On the other hand, Dr. Hammond claims to have taken eighteen grains hypodermically without serious effects. It is used in Dr. Da Costa's wards at the Pennsylvania Hospital as a stimulant for cases of nervous depression and weak circulation in low fevers, a half-grain having been given every two hours for several days in cases of typhoid fever, followed by recovery.

ERGOT IN PARTURITION.

The use of ergot in labor has been the subject of a controversy which has led to many heated discussions in our medical societies, and notably the American Gynæcological Society. The whole question is well summed up by Dr. Thad. A. Reamy in a paper entitled "Ergot in Labor and Puerperal Convalescence, with Protests against the Extent to which it is Employed," read before the Cincinnati Academy of Medicine, November 22, 1886.† Dr. Reamy's conclusions are as follows:

1. Ergot may properly be administered in small doses, say ten to twenty drops of Squibb's fluid extract, before delivery in cases of uterine inertia which resists other means, and especially in women who are predisposed to hemorrhage.

2. It should be administered in full doses hypodermically, or per os, or both, in cases of post-partum hemorrhage.

3. When an anæsthetic has been freely used during the second stage of labor, it to some degree predisposes to post-partum hemorrhage: ergot is therefore indicated.

4. It should be administered in small doses two or three times daily during the period of puerperal convalescence, whenever a flabby uterus indicates it. In such cases there is no better combination than the pill recommended by Mundé:

℞ Ext. ergot., gr. j;
Quininæ, gr. j;
Ext. nucis vomicæ, gr. ¼. M.

* Case of Dr. W. H. Long's, United States Marine Hospital Service, reported in the *American Lancet*, November, 1886.

† Cincinnati Lancet-Clinic, December 11, 1886.

THE OCULIST, THE OPTICIAN, AND THE PUBLIC.

BY L. WEBSTER FOX, M.D., AND GEORGE M. GOULD, A.B.,
Philadelphia.

IT has in all civilized countries been found not only conducive to the public good, but also necessary to the public welfare, to limit the traffic in drugs to such persons as have pursued a special course of study fitting them to dispense the materia medica intelligently, and who are in other respects qualified to deal wisely in matters which are of so highly important and delicate a character.

It is our conviction that the business of supplying the community with spectacles is, in its way, and to a degree, a function of as profound importance to the community at large; that at present this office is shamelessly prostituted to money-making; and that similar legal restrictions should be set about it as have been found beneficial in the case of drug-selling. Our contention is that the optician should be placed on precisely the same legal standing as the druggist,—that is, he should by education, both general and technical, and by the restriction of his duty to his legitimate function, be placed before the community with a guarantee by the proper authority that he is qualified to do what he pretends to do, and that he shall not pretend to do what is wholly beyond and outside his province.

Just as the druggist *quâ* druggist is not a physician, so should the optician not pretend by his practice to be an oculist. If the professions of medicine and pharmacy are distinct, it is beyond all cavil that the profession of ophthalmology is quite as different from that of manufacturing and selling optical instruments.

We speak thus strongly because the reason for the faith that is in us is derived from the memory of a long series of cases where irreparable injury and years of suffering have been the result of the common foolish habit of sufferers from eye-troubles

relying on the optician—respectable or quack—to do the work they should have been legally protected from seeking or getting, or, yet more correctly, from being deceived in the getting.

In our hospital practice, especially, these cases continually occur, but in the best private practice also we meet with them constantly. Such instances had at last grown so striking and frequent that we began inquiring if our experience was exceptional, or if that of other physicians was at all similar to our own. We asked a half-dozen of our friends what their experience had been, and, with their consent, we publish the following excerpta:

Dr. Swan M. Burnett, of Washington, D.C., says, "I am sure a great deal of damage has been thus done. I know an optician who fits people with glasses with which they can see both far and near. Some of these people I have seen, and I have found that he adapts one eye to distant vision and the other to near! It must be a very vigorous person who can stand that long."

Dr. Henry Dickson Bruns, of the editorial staff of the *New Orleans Medical and Surgical Journal*, says of the better class of opticians, "Having a good knowledge of physical optics, they soon come to believe that they understand the whole science and art of 'refraction.' Hence their lamentable mistakes."

Dr. D. B. St. John Roosa, of New York, writes us, "Like yourselves, I have seen some bad results from the custom of certain opticians prescribing spectacles. When they do, they generally make a muss of it. I have known them to prescribe glasses for glaucoma, for myopia when the patient was hypermetropic, etc."

Dr. D. Webster, of New York, says, "I heartily join you in your protest against the prescribing of spectacles by opticians. I consider it on a par with counter-prescribing of medicines by apothecaries. There are a number of peripatetic venders of spectacles who go about through the country telling the unwary that they are students of Dr. C. R. Agnew and personal friends of his, and that they are endorsed by him. Some of these men impose upon the credulity of those who might easily be better informed, and obtain from them almost fabulous sums of money for spectacles that are of very little value. . . . Although I have, as every one who has much to do with examining eyes and fitting them with glasses must have, seen cases like those you refer to, where the eyes have undoubtedly been injured by wearing absurdly wrong glasses, yet our cases are not so indexed that I can readily look up their records; therefore I hope you will be content with generalization."

Dr. Dudley S. Reynolds, of Louisville, Kentucky, editor of *Progress*, kindly sends us a valuable and interesting list of cases. We regret that we cannot quote the details. We give synopses of the more important.

A law-student came to him "wearing $-\frac{1}{7}$", prescribed by an itinerant optician. Study had become impossible, owing to severe headaches, photophobia, and sundry distressing neurotic symptoms. Rest under a mydriatic gave relief, and a proper correction of his *mixed astigmatism* enabled him to resume his studies with a perfect reinstatement of health.

A poor young woman bought several pairs of high minus spherical glasses from a jeweller, who undertook to refract her eyes with a machine "just such as used by distinguished oculists." After great ocular injury from the spectacles, she was found to be *highly astigmatic*. Proper correction relieved her of the intense ciliary neuralgia from which she had suffered, and arrested the progress of the posterior staphyloma and of the amblyopia.

Dr. Reynolds further says, "I fully realize the importance of exposing as far as possible the dangerous practice of travelling spectacle-peddlers and common jewellers attempting to adjust glasses for the correction of optical defects. My note-books are full of such cases, and I know of no evil which more urgently demands the general attention of both the public and the profession. I might cite other cases almost equally striking which resulted from attempts to determine and correct refraction by the aid of the ophthalmoscope alone."

We had intended citing a number of our own cases in detail, but are warned that our limited space forbids, and we must with regret omit them. We willingly give way to the unexpectedly full replies our friends have so courteously sent us, and are only sorry we felt compelled to curtail these so much. We cannot leave the subject, however, without referring to a recent case. It was that of a lady past 55, who relied on the optician to fit her with

"old age" spectacles. Her dimness of vision, however, was only temporarily benefited by the spectacles, and they were soon changed by the obliging dealer. But there was before long a dimness of vision, and again a change. Finally, after many changes,—we forget how many,—and when the precious time of possible relief had been wasted, the patient came under observation with a typical glaucoma chronica, wholly beyond cure. No astigmatic correction had been added to the presbyopic glasses; and, if not absolutely induced, it is far more than probable that the glaucoma had been increased and its progress hastened by the irritation resulting from the glasses. At least,—and this is the most important,—the patient's reliance on the optician cost her the terrible penalty. Had the law directed her to a physician, as it does in other forms of illness, no such result would have taken place. No optician ever thinks for a moment of any but refractive errors, and, of course, not of the remote bearings of a supposed correction of these. Indeed, it may be added that perhaps many oculists are far from properly appreciating the persistently intimate co-relations of the errors of refraction (with their correction) and general ocular and cerebral disorders. So that it is no exaggeration to say that in writing a prescription for glasses, the judgment must be guided by a multitude of considerations that only the physician plus the ophthalmologist can for a moment be supposed to consider and estimate aright. How far soever from perfection the oculist may be critically adjudged, there can be no question that the peddler, the jeweller, and often the optician are yet farther from it, and that some legal process of culling and gleaning in this field would be a great benefit to the community.

1304 WALNUT STREET.

THE ELECTRO-DIAGNOSIS OF NEURITIS AND ANTERIOR POLIOMYELITIS.

Read before the Philadelphia Neurological Society

BY JAMES HENDRIE LLOYD, M.D.,
Instructor in Electro-Therapeutics in the University of Pennsylvania.

THE irritability of a nerve-trunk to an electric current (either by galvanism or faradism) depends upon the integrity of the axis-cylinder. This integrity may be impaired by pressure upon or by a fracture of the axis-cylinder. The pathology of degeneration in a nerve-fibre is, first, an increase of protoplasm about the nucleus in the sheath, then the splitting up of the white matter, and, finally, the breaking of the axis-cylinder.* In neuritis it may be a question how soon this *fracture* takes place, but *pressure* evidently occurs very early, and in severe acute neuritis (as in some forms of facial paralysis) this pressure is very great, is very quickly established, and, in the worse forms, no doubt leads to the breaking of the axis-cylinder. If electro-irritability, therefore, be retained in the nerve in neuritis, it must be either because the pressure is very slight or else because of an escape of some nerve-fibres amidst the destruction of others. The first event is what happens in mild subacute neuritis, but the latter alternative does not seem very probable when the disease is interstitial in the narrow calibre of a nerve-trunk, and especially when it has continued a long while. On the other hand, in anterior poliomyelitis of slow progress the large cells may be gradually and successively destroyed, followed by the degeneration of a comparatively few nerve-fibres; and in these cases the nerve will retain its electro-irritability (possibly diminished sometimes) although the muscles may have commenced to put on the modal and serial changes of degeneration. These facts have been long recognized, but do not appear of late to have been sufficiently relied upon as a possible factor in diagnosis.

De Watteville has drawn a distinction between myotrophic and neurotrophic centres in the cord, but the distinction, as well as his illustration, is artificial, and the phenomena probably depend upon the extent of degeneration and the number of nerve-fibres involved. His own opinion inclines to the view that where nerve-irritability (especially faradic) is preserved, especially in cases otherwise chronic, with muscular atrophy and muscular reactions of degeneration, we have a condition rather of atrophy of the anterior horns than of the nerve-trunks, affording strong corroborative evidence in establishing the differential diagnosis. It is this condition of retained nerve-irritability, with degeneration-reactions to galvanism in the muscle, which we have in such slow cord-lesions as

* Rauvin, as quoted by Gowers in "Diseases of the Nervous System," Part II.

amyotrophic lateral sclerosis and chronic anterior poliomyelitis. Here other symptoms aid the diagnosis, especially the large fibrillary contractions in the muscular atrophy and the spastic symptoms in lateral sclerosis. The only forms of neuritis that he knew of in which faradic irritability of the nerve is preserved, with muscular reactions of degeneration, are essentially mild, non-chronic attacks (such as mild facial palsy), and in these the lesion is probably light compression, leaving the axis-cylinder unbroken.

It must be recalled that muscle-tissue alone will not respond to such strength of faradism as we use upon it in the clinic, but is excited through the motor-nerve-endings in its tissue: consequently when we have response in a muscle to faradism we infer that the nerve is still intact or partially so. Hence in severe facial palsy one of the first symptoms is loss of farado-contractility.

Illustrative cases have been noted as follows:

1. A very marked case of chronic anterior poliomyelitis, in which both legs and arms were involved, with very great fibrillary contractions. Very exact notes of this case have been preserved, and show that while the affected muscles showed the slow, lazy contraction of degeneration, with slight changes in the normal formula, yet the nerve-trunks remained normal (or only slightly decreased) to faradism. This is just the condition which would be expected in anterior poliomyelitis, but we would not expect it in neuritis.

2. In this case there was a rapid wasting of certain isolated groups of muscles,—as deltoid, infra-spinatus, and supra-spinatus (possibly biceps and supinator longus),—and with muscular reactions of degeneration there was rapid loss of nerve-irritability to faradism. This loss of farado-irritability, with absence of fibrillary contractions, also the circumscribed group of muscles in which it occurred, was rather suggestive of a neuritis destroying first the nerve-trunk.

3. A case of rapid and complete wasting of the muscles especially presided over by the nerves which are stimulated at Erb's motor point: deltoid, spinati, biceps, and supinator longus. Nerve-irritability to both currents abolished; reactions of degeneration in muscles followed by loss of muscular irritability (except slight modal response); no fibrillary contractions; history of traumatism. All the symptoms as well as the history point to a neuritis of a few nerve-trunks in the plexus, and the electric examination confirmed this.

4. A marked case of facial paralysis with secondary contractions, with *total* abolition of nerve-irritability to both currents and reactions of degeneration in muscle. This is a typical picture of a neuritis.

5. A case of amyotrophic lateral sclerosis (descending degeneration?) with spastic muscles, wasting and exaggerated reflexes. The nerves respond normally to both currents,—showing certainly not a neuritis,—while there are slight reactions of degeneration in the muscle. Cases somewhat like this have been reported by Hughes-Bennett.*

Conclusions.—The point sought to be emphasized is the retention of electro-excitability in the nerves, which in chronic cases does not appear consistent with the idea of a neuritis, but, rather, of a slow cord-lesion. If this electric excitability can be preserved in a chronic neuritis, we must suppose a very slow interstitial inflammatory process which compresses some fibres and allows others to escape. But to think that this happens in the narrow calibre of a nerve-trunk during a prolonged period of inflammation seems to require some effort of imagination and credulity. The electrical reactions in the above cases (especially the condition of *nerve*-irritability) support the other symptom-groups in their significance as to a cord- or a nerve-lesion.

Walnut and Fortieth Streets.

HÆMORRHOIDS TREATED BY INJECTIONS OF CARBOLIC ACID.

BY G. H. DAVIS, M.D.,

Black River, New York.

TWO cases of successful use of carbolic acid by injection in the treatment of hæmorrhoids have recently occurred under my care.

C. B. came to my office June 10, 1886, to be treated for piles, which had troubled him for more than thirty years. Upon examination, I found in the rectum a vascular pile, which bled freely upon being punctured with the aspirator-needle. He also had a bad rectal fissure. After introducing the speculum,

* Treatise on Electro-Diagnosis.

I injected the pile with twenty minims of a fifteen-per-cent. solution of carbolic acid. I also cauterized the fissure with solid nitrate of silver, and instructed the patient to use as an enema the fluid extract of hamamelis, one drachm to the ounce of water, every morning.

At the expiration of one week he returned. I found the hæmorrhoids much reduced in size and less vascular. The treatment was repeated, and the same injection used as before.

He did not return to the office again until three weeks had elapsed. I now found that the hæmorrhoidal tumors had entirely disappeared, and that the fissure had nearly healed. I again applied caustic to the fissure, and ordered an ointment as follows:

℞ Ext. belladonnæ alc., gr. v ;
Acidi carbolici, gr. x ;
Plumbi acetatis, ʒij ;
Petrolati, ʒvi.

M. S.—To be used night and morning.

On July 21 the patient again returned. I found the fissure entirely healed, and no traces of the hæmorrhoids. He was discharged, with instructions to return again in case there should be any indications of a return of the trouble. I have kept the case under observation until the present time,—about three months,—and there have been no indications of a relapse.

The patient now works hard at heavy labor every day, something he was unable to do before.

F. C., laborer, age 58 years, came to my office August 8, 1886, to be treated for hæmorrhoids and chronic diarrhœa, from which he had suffered since leaving the army in 1862. The same treatment was used in this case as in the preceding one, and the patient instructed to return in two weeks. He returned August 22, and upon examination I found the hæmorrhoids much reduced in size. I again injected them, using thirty minims of the solution of carbolic acid. He was to return again in two weeks, but failed to appear until September 12, when he called to tell me that he was cured and had gained ten pounds in flesh since the first treatment. I examined him, and found only slight evidences of hæmorrhoids, which he would not permit me to inject, saying that he was well and did not need further treatment.

Up to date he has had no return of either trouble. Curing the piles seemingly cured the diarrhœa.

I report these cases so as to call the attention of the profession to the value of the local treatment of hæmorrhoids by hypodermic injections of carbolic acid.

The speculum used was O'Neal's bivalve, and the injector an ordinary hypodermic syringe with a long aspirator-needle. My examining-table is made in two parts, set at right angles, each part being three feet in length when fitted together.

The patient lies on the right side, which renders examination easy, with very little exposure of person.

I have other cases under treatment, which will be reported at some future time.

TRANSLATIONS.

Polarized Currents.—At the Paris Biological Society, MM. Onimus and Larat have recently presented a series of tracings which described the contractions produced in the muscles of a frog's leg by means of polarized currents from the human body.

A first series of experiments consisted of galvanizing ordinary water and passing the currents determined by the electrolysis of this water through the gastrocnemius muscles of a frog's legs. MM. Onimus and Larat noted, at the moment of the contact and interruptions of the current, a series of sharp muscular shocks, analogous to those produced by a direct current. In a second series of experiments, the authors applied the electric current to one of their own limbs, and by obtaining the secondary current of polarization thus engendered in the substance of the tissue they likewise produced contractions which lasted some instants after the cessation of the direct current.

This statement is an irrefutable confirmation of the opinion of Matteucci, Becquerel, Legros, and Onimus, concerning the manner in which electricity acts upon living tissues; it also demonstrates the reason why the theory of electrotomy maintained by Erb, Dubois-Reymond, and the entire German school is erroneous.

Physiological Action of Ordinary Piperidine.—At a recent meeting of the Biological Society, MM. Oechsner de Connick and Pinet communicated the result of their experiments concerning the action of ordinary piperidine on warm-blooded animals. A series of eight experiments on guinea-pigs showed that no appreciable distance exists between the action of hexahydrure of pyridine and that of ordinary piperidine. The same process was resorted to as with cold-blooded animals. Subcutaneous injections were made of alkaloid, pure or with the addition of water.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, DECEMBER 25, 1886.

EDITORIAL.

ONE YEAR'S WORK OF THE STATE BOARD OF HEALTH.

THE first annual report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania was transmitted to the Governor of the State December 7, and has just been issued in suitable form. As the youngest of the departments of our State government, the Board has naturally been compelled to defer to all the others in the matter of priority in the publication of its annual report, and it may thus appear to have been unnecessarily tardy in its compilation. Very few of the reports of other State Boards of Health for the corresponding year, however, have appeared in advance of our own. It constitutes a volume of three hundred and fifty-six pages, with eight full-page maps, two large maps, six charts, six plans, two wood-cuts, and twenty tables, with an index. It was the aim of the Executive Committee to make it the vehicle not only of permanently recording the official actions of the Board, but also of bringing together such other information in regard to the sanitary condition of the State as might indicate the urgent necessity for more extended effort to improve it, especially in the important direction of checking the pollution of rivers, now almost entirely unprotected, and also of placing before municipal authorities throughout the Commonwealth the results of the experience of the metropolis of the State as a guide to them in arranging the details of sanitary organization and reform.

The history of the Plymouth epidemic of typhoid fever, comprised in three valuable papers,—the first by Dr. Pemberton Dudley, a member of the Board, tracing it to its origin in the city of Philadelphia; the second, by Dr. Lewis H. Taylor, of Wilkes-Barre, detailing its rise and progress, and pointing out its local cause by a process of inexorable logic; and the third, by Dr. Morris Stroud French, of Philadelphia, one of the physicians sent by the Citizens' Relief Committee of Philadelphia to aid the terror-stricken inhabitants, accurately showing the amount of the expenditures incurred in the care of the sick,—"constitutes," in the language of the Secretary, Dr. Lee, "at once a most valuable contribution to the history of epidemics and an irrefutable argument in favor of immediately instituting a thorough sanitary organization throughout the State, and of jealously guarding all sources of public water-supply, as measures of simple economy, entirely apart from any humanitarian consideration."

The Secretary also congratulates the Board on the harmonious manner in which it has been enabled to work through, and side by side with, local boards of health wherever the public health has been so seriously threatened as to call for its interference. So far from any feeling of petty jealousy having manifested itself on the part of local authorities, the officers of the Board have been welcomed with open arms, and their advice gladly accepted and promptly acted upon. To this fact it is doubtless to be attributed that several very promising epidemics of typhoid fever which might have repeated the sad story of Plymouth (such as those at West Elizabeth and South Pittsburgh) have been confined within reasonable limits and cut short.

The Secretary has, in his report to the President of the Board, furnished the following admirable summary of the work done during the past year, which demonstrates conclusively the wisdom of the

choice of Governor Pattison in making his appointments on the Board.

"It has established friendly relations and interchange of ideas and results with the National Board of Health, the State Boards of all other States of the Union and of Canada, and the Health Bureaus of many European countries. It has communicated officially with the Boards of Health, Sanitary Committees, and Borough Councils of all cities and boroughs in this State. It has been the means of forming boards of health in places where they did not exist, and of aiding those already formed to systematize and enforce their regulations. It has devised a Model Ordinance on sanitary matters for the guidance of all municipal authorities. It has drawn up a set of Model Rules for Boards of Health, including full instructions for the establishment of special hospitals for emergencies, which may be adopted by any board existing or about to be formed, with such modifications as local circumstances, as charter provisions, or previous legislation may require. It has formulated circulars containing precautions against cholera and smallpox, and regulations for preventing bone-boiling establishments, slaughter-houses, and other offensive industries from becoming sources of danger to the public health; and has distributed these to all city and borough councils, to all superintendents and teachers of public schools, to all jails and charitable institutions, to all newspapers, to all physicians, to all clergymen, to all judges and supervisors, throughout the State, and to upwards of a thousand leading manufacturing firms in the city of Philadelphia. In its distribution to public schools and charitable and reformatory institutions it has obtained the kind co-operation of the Superintendent of Public Education and of the 'State Board of Lunacy and Charities,' which it desires gratefully to acknowledge. It has made inspections of the water-supplies of two cities and one borough at the request of the Councils of the same. It has made inspections of aggravated nuisances existing on the outskirts of three large cities and several boroughs at the request of the Boards of Health or Councils of the same, the nuisances being beyond their own jurisdiction. It has successfully prosecuted and lodged in jail an individual who was poisoning the air of a lovely village for the sake of compelling his neighbors to buy his property. It has divided the State into inspection districts, and appointed inspectors for the same. It has instituted an inspection of the mining regions of the State, with a view to improving their sanitary condition. It has investigated numerous outbreaks of contagious diseases in different parts of the State, personally or through its inspectors, including two of smallpox, both of which, with the prompt and efficient aid of the local authorities, assisted in one instance by the Board of Health of Philadelphia, were successfully nipped in the bud. It has communicated with the officers of railroad and other transportation companies in regard to the transmission of infected passengers or goods, has appointed special inspectors on such lines of travel, and authorized the destruction of several lots of foul clothing found upon their premises. It has caused scientific reports to be made of outbreaks of epidemic disease in the State, particularly that at Plymouth, Luzerne County. It has carefully watched the importation of foreign rags, and insisted on their disinfection before being sorted by the operatives. It has sent delegates to the meetings of the American Public-Health Association, and the Annual Conference of State Boards of Health, and contributed material to their transactions. It has made inspections of the sanitary conditions of six soldiers' orphan schools. It has devised forms for the registration of marriages, and of practitioners of medicine and surgery, and distributed them to all prothonotaries and clerks of Orphans' Courts throughout the State. It has carefully inspected the quarantine system of the Delaware River and Bay, and corresponded upon the subject with the national authorities. It has, by personal interviews and correspondence, consulted with State and county legal officers in order to determine its own exact status and powers. Its committees are now at work upon the following subjects: preparing a compend of the laws of the State on all matters affecting the lives and health of her citizens; preparing a system of organization for rural boards of health; arranging plans for the thorough investigation of all public institutions and schools; and preparing circulars on all contagious diseases. It has prepared for the press, and has ready for distribution, its first annual report.

"Finally, it has held, in the city of Philadelphia, a Sanitary Convention, opened by his Excellency the Governor of the Commonwealth, presided over by the distinguished Provost of the University of Pennsylvania, attended by representatives of State Boards of Health and eminent sanitarians from all parts of the country, before which essays of the deepest interest were read. It has now established an official organ, through whose columns it purposes to give these valuable papers, with other similar information, to the public, and which, under the efficient editorial supervision of the Chairman of its Committee on Preventable Diseases, a gentleman of long journalistic experience, it believes will be a most important instrument in fulfilling the imperative duty imposed upon it by law, '*to*

disseminate information upon these and similar subjects among the people.'"

It will be seen that the record more than justifies the assertion made in the first report of the Secretary, after a brief three months' survey of the field, that "it is evident that the first and most pressing want of the State, from a sanitary point of view, is the organization of boards of health in the rural districts." Indeed, so urgent and so numerous have been the calls upon the Board to perform duties which properly devolve upon local boards in the way of the abatement of purely local nuisances,—duties which it cannot decline, because it constitutes the only legal bulwark between the people and conscienceless or ignorant poisoners of the people's air and food and water,—that other functions which are more distinctively its own, such as registration of vital statistics and the dissemination of information upon sanitary subjects, have been compelled to remain somewhat in abeyance. The development of the former of these two subjects, however, has also been retarded by the want of legislation which shall determine certain of the essential details of execution, and make attention to them obligatory upon the officers to whom they are assigned, while at the same time it assures a proper remuneration for the performance of such duties.

In regard to the latter, the Board has from the first recognized the immense value of the public press as a means of conveying instruction upon these vital topics to the great mass of the population. The utilization of a monthly journal, *The Annals of Hygiene*, as the official organ of the Board, was a step the wisdom of which experience, we trust, will abundantly demonstrate.

PNEUMONIC ENDOCARDITIS.

IN the *Archives de Physiologie*, No. 8, 1886, Netter has gone over the whole question of the relation of endocarditis to pneumonia, and has contributed some valuable facts, which not only confirm the observations of Osler on the frequency of this complication, but also possibly demonstrate the truth of his suggestion that these secondary lesions are dependent upon the micro-organisms of the primary disease.

The figures given by the latter writer were very convincing, for, of two hundred and nine cases of ulcerative endocarditis recorded in the literature, fifty-four were in connection with pneumonia, and in a paper on "The Morbid Anatomy of Pneumonia," read before the Philadelphia Pathological Society, he stated that, of one hundred and five autopsies on this disease at the Montreal General Hospital, endocarditis was present in sixteen cases. Netter has carefully studied three cases which have come under his own observation, reports six other instances occurring in the practice of friends, and has collected seventy-three cases from the clinical records of the past half-century. In seven of his cases the vegetations presented micro-organisms of the same nature as those in the lungs, — viz., lozenge-shaped bodies in pairs and usually surrounded with a capsule. He does not appear to have been very successful in making culture-experiments; but the inoculation of the material from the valves into rabbits, rats, and mice gave very remarkable results. In the first case, a pregnant woman who died on the second day from the chill, there was extensive aortic and mitral endocarditis. Bits of the vegetations, rubbed up in a sterilized fluid and injected into the pleural cavities of rabbits, mice, and rats, produced pneumonia, but no endocarditis. In a second series he lacerated the aortic segments, and on the following day injected the material from the vegetations with the production of endocarditis in the torn valves. In a third series the blood from a patient with pneumonic endocarditis was injected into the pleural cavities

of two mice, and death from pneumonia followed in two days.

Netter finds that the right heart is more frequently involved, in pneumonic endocarditis in one-seventh of the cases, while in ulcerative endocarditis from other causes the tricuspid or pulmonary valves are affected in only one-nineteenth of the cases. He thinks also that in this form the vegetations are smoother and infarcts are less common. Meningitis is a very constant accompaniment of pneumonic endocarditis, occurring in seven-ninths of the cases. Netter holds that it is due to an independent infection and is not embolic, and in favor of this view is the fact that, apart from the presence of valve-lesions, meningitis is not very uncommon in pneumonia.

These experiments of Netter, though suggestive, are not altogether convincing. We still need parallel cultures from the valve-lesions and the hepatized lungs, and more light on the question of the identity of the experimental inflammation of the lung in the rabbit with the primary croupous pneumonia of man.

THE MEDICAL SERVICE OF THE UNITED STATES PENSION BUREAU.

AT the last meeting of the Academy of Medicine, Dr. P. S. Connor, of Cincinnati, read a timely paper upon the medical service of the Pension Bureau. The physician comes professionally in contact with the general government in the medical service of the Army, Navy, Marine Hospital, and Pension service. In the three former there is a rigid examination, and neither chief nor subordinate in the War, Navy, or Treasury Department has anything to do with the selection of the surgeon, and into none of the examinations does political affiliation enter as a factor for appointment. As a result, these are bodies of medical men, capable, learned, honorable, and honored. But the two thousand three hundred Examining Surgeons of the Pension Bureau are the appointees of the Commissioner of Pensions, selected without examination, and often through political influence, and with a tenure of office depending on the pleasure of the Commissioner. A few of the reviewing examiners at Washington have passed a competitive examination, but their tenure of office is uncertain. The office of Examining Surgeon for Pensions belongs, therefore, to the political offices. The duties of the Pension Surgeon are peculiar. He has to determine from present condition whether the alleged injuries or diseases were contracted during the war. Subjective symptoms are generally very largely exaggerated, so that little regard can be paid to them; the objective symptoms may or may not be easily determined, and frequently they are such as will require prolonged investigation and special skill. When the existence of the injury is assured, it must be determined whether it belongs to the army-period or not. After this has been determined, the question must be decided whether or not the amount of present disability unfits for manual labor. Evidently, such service requires experienced physicians of sound judgment, and there remains an immense work to be done by the Examining Surgeon: hence it seems that it would be wise to select carefully the men who compose the Pension Board of Examining Surgeons. But this could not be done while they were appointed as they are now. The essayist thought that it would be well to increase the number of assistant-surgeons in the army and navy, and that then a body of men trained to a knowledge of the manners of soldiers and sailors would be had by whom those applying for pension would be subjected to careful examination. Such examiners could give their whole time to it, and, in addition to the careful safeguards thrown around the Treasury by their skill, they

could also make many examinations as to the present condition of those who were injured twenty years ago, which would make an invaluable contribution to our medical knowledge.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE great excitement at the present time is among the members of the Royal College of Surgeons. There is indeed a very pretty quarrel going on between the members and the Council: the Council have won for the moment, but he would be a wise and far-seeing man who could foretell how the quarrel will eventually end. The members number about seventeen thousand: in fact, nearly every English practitioner who has been educated in England is a member. The Council is elected by the Fellows, a comparatively small body of men, who attain to that dignity either by examination or by selection by the Council: the Council consists almost exclusively of consulting surgeons, and the majority are resident in London. The members claim the franchise,—that is, the right of voting for the election of the Council: until recently the members were entirely ignored, but a few years ago they formed an association and have forced the Council to hold an annual meeting of Fellows and members. At these meetings the members and Fellows talk, and the Council listens, or at any rate maintains silence. When the meeting has dispersed and the talking is over, the Council assembles again and acts. This is what has happened this year at the annual meeting, held on November 4.

In Mr. Timothy Holmes the members found an able and eloquent spokesman. This is no customary figure of speech, for all the surgical world knows of the abilities of Mr. Holmes, and every one who has ever heard him speak knows that he is one of the most clear and incisive speakers in the profession in England: moreover, Mr. Holmes is not only a Fellow, but a former member of Council, and might have been the President if he would: he prefers to stand forward as the champion of the popular cause. He moved a resolution to the effect that it would be well that members of the College of ten years' standing should have the right to vote, and members of twenty years' standing the right to be elected to the Council. Dr. Sanford Thomas, the coroner for Central Middlesex, seconded this not very subversive proposal. The Council said nothing, but Mr. Erichsen, a former President, made a strongly conservative speech, in which he altogether denied the justice of the claims put forward on behalf of the members. The motion made by Mr. Holmes was eventually carried by an overwhelming majority. Later on another resolution, inviting the Council to consider the advisability of admitting the Society of Apothecaries to the Conjoint Board (formed by the Royal Colleges of Physicians and Surgeons for the purpose of granting licenses to practise), was unanimously adopted. It is in connection with this resolution that the quarrel has arisen. The Council, acting within its legal right, has thought it advisable to disregard this recommendation, and within ten days of the meeting formally announced to the Apothecaries' Society its refusal, acting conjointly with the College of Physicians, to admit the Society to the Conjoint Board. It has been supposed that this decision would lead to the extinction of the Society of Apothecaries: it would seem, however, that the wish was father to this thought, for the Society and its legal advisers are quite confident that it will not thus be extinguished, but that the Privy Council will be easily induced to sanction the appointment of Examiners in Surgery, so that a complete examination may be held and a double qualification in medicine and surgery granted. In this case the hope that the act of this year would finally settle the vexed question of a minimum qualification and establish the so-called one-portal system seems to be disappointed.

Gynæcological subjects have recently come in for even more than their usual share of attention. Mr. Knowsley Thornton's paper on three hundred additional cases of complete ovariotomy and twenty cases of exploratory operations was an important statistical contribution: he was able to record a progressive decrease in mortality; each fatal case was described at length; and in speaking of drainage he said that the important point was to remove the tube early enough. The speedy recurrence in cases where solid sarcomata were removed was pointed out, and, in view of the after-mortality from malignant disease of the peritoneum, he strongly condemned a preliminary tapping.

In the discussion which followed the reading of the paper, Mr. Alban Doran supported Mr. Thornton's view, urging that it was not justifiable to tap a cyst supposed to be parovarian, because it was impossible to distinguish between a thin-walled broad-ligament cyst curable by tapping and a thin-walled cyst bearing papillomatous contents: the fluid obtained was similar in both cases, but in the latter disastrous consequences follow the escape of even a minute quantity of the fluid into the peritoneum.

Sir Spencer Wells expressed an opposite opinion: he also stated that since the introduction of antiseptics he had found it necessary to resort to cooling measures in a very much smaller number of cases.

Dr. Playfair thought that the real advance

was the introduction of the system of washing out the peritoneum with water, and stated that he had recently performed five consecutive ovariotomies in King's College Hospital without using antiseptics, and with the most satisfactory results: he added, however, that while he condemned a bigoted adherence to the spray he thought it a useful adjunct in hospital practice, partly on account of the moral effect it produced on the operator and his assistants.

Mr. Thornton hastened to disclaim a bigoted belief in the spray, and explained his use of it on the ground that it kept the hands of the operator, the instruments, and the abdominal walls constantly moist with antiseptic fluid. He thought that the system of freely washing out the peritoneum with water was a great advance: it acted, he thought, by comminuting fragments of material which were either septic at the time of the operation or were in such a condition that in the course of a few hours they would become septic throughout; even if all these particles were not washed away, they would, when reduced to an extremely minute state of subdivision, be more easily and effectively dealt with by the peritoneum itself, which possessed a vital resistance of its own, and was able to destroy injurious particles when these were not so large that they became encapsuled by lymph.

At the Gynæcological Society Dr. Alfred Meadows extolled Sänger's operation as one which ought entirely to replace craniotomy: the latter operation Mr. Lawson Tait, who is President of the Society, called by the short and simple term "child-murder." Dr. Meadows gave some statistics furnished to him by Dr. Harris, of Philadelphia, which showed that thirty-one operations had resulted in saving the life of the mother in twenty-four cases, and of the child in twenty-nine; moreover, the mortality appeared to be decreasing. In the whole series the maternal death-rate was twenty-one per cent., the fœtal seven, whereas in the last twenty cases the maternal death-rate was ten per cent., the fœtal five.

Dr. Barnes objected that the maternal mortality after craniotomy was very low,—less than five per cent.,—and that, in fact, done at the most favorable time and with due skill it did not involve any maternal mortality at all; he excluded cases of extreme pelvic deformity which forbade the hope of extracting the child even after craniotomy.

Mr. Lawson Tait also read a paper at the Medical Society in which he discussed the general principles which should guide the surgeon in deciding whether the operation which he prefers to call "removal of the uterine appendages" should be performed. Following the classification adopted by Sir Spencer Wells in a recent paper, he said the operation was justifiable in (1) certain cases of bleeding myoma, (2) certain malformations of the genital organs and pelvis and accidental obstruction of the vagina, (3) obstinate cases of ovarian dysmenorrhœa or neuralgia in which life or reason was endangered. It was unjustifiable in cases of nervous excitement and madness, and ought never to be done without the consent of a sane patient to whom its consequences had been explained. Reviewing the cases included in these categories, he pointed out that as the patient was, as a rule with few exceptions, sterile owing to the disease for which the operation was performed, the objection that the operation entailed sterility could not be made good.

An important paper on papilloma of the Fallopian tube and the relation of hydroperitoneum to tubal disease was read at the Obstetrical Society on October 6 by Mr. Alban Doran, one of the younger members of the staff of the Samaritan Free Hospital, and well known to pathologists as the coadjutor, with Dr. Goodhart, of Sir James Paget in the preparation of the great catalogue of the Museum of the Royal College of Surgeons. Papilloma of the Fallopian tube, he said, was either a very rare disease or had been frequently overlooked; and during the discussion on this paper (which was adjourned until the meeting of the Society on November 3) Dr. Horrocks stated that at his request careful investigation had been made in the post-mortem room of Guy's Hospital during the last three years to ascertain the frequency of different diseases of the female organs, and that not one instance of papilloma of the tube was discovered. Mr. Doran, in his reply, while admitting the value of this evidence, was naturally led to point to the way in which hydrosalpinx and pyosalpinx had been until recently overlooked by pathologists, while more than one series of specimens had lately been exhibited (by Dr. Kingston Fowler and Mr. Lawson Tait). The symptoms produced by papilloma of the tube do not appear to be very pronounced: a pelvic tumor existed in both the cases recorded by Mr. Doran, but pain does not appear to be an essential symptom, and hemorrhage was absent. The growth is not malignant, and if, as seems probable, it has the same character as other similar growths on the external parts, the disease must be a special form of salpingitis. Dr. Rowth suggested that papillomata in the tube might arise by infection from warts on the external genitals and vagina, and though gonorrhœal infection was stated not to have been, in all probability, ever present in one of the cases, the greatest practical interest attaches to the question whether the affection is inflammatory. Gonorrhœal inflammation nearly always seals up the ostium of the Fallopian tube, and if it did not must excite the most intense peritonitis, whereas a mild catarrh would not necessarily lead to occlusion of the ostium; the catarrhal secretion might thus escape into the peritoneal cavity and cause hydroperitoneum: Dr. Mathews Dun-

can has described that condition as one "in which there is no organic or tangible disease discovered, beyond the conditions of the peritoneum itself, to which the collection of fluid can be referred." That in rare instances this catarrh may be due to papillomatous growths on the tubal mucous membrane was conclusively proved by one of Mr. Doran's cases, for the papillomatous tube was removed seven years ago, the hydroperitoneum never recurred, and the patient has remained free from disease of any kind down to the present time. Both the patients had recently passed the menopause; in the second case, where the disease had caused pelvic pain and difficulty in micturition, the ostium of the tube was closed, and there was no fluid in the peritoneum.

A man bitten by another man suffering with hydrophobia has recently died after undergoing the usual prophylactic treatment at M. Pasteur's laboratory: he returned in good health and spirits, but shortly afterwards became ill and died in five days; the medical attendant considered that the patient died of pneumonia, and this was confirmed after death. Another man recently sent to M. Pasteur, an attendant at the Brown Veterinary Institute, also died soon after his return to this country. Death in this case was due to acute spinal paralysis, attributed to exposure to cold, fatigue, and too much beer. In neither case are the details at present published sufficiently exact to permit us to arrive at an independent opinion.

The suspected connection between embolism and aneurism was a topic of discussion at the Royal Medical and Chirurgical Society on November 23. Messrs. Langton and Anthony Bowlby related an interesting case of multiple aneurism where the connection with multiple embolisms could hardly be doubted; the aneurisms were not formed by dilatation of the arterial walls above the embolus, but by inflammation of the coats at the place where they were in contact with the embolus; in some situations the lodgment of the embolus had led not to dilatation, but to ulceration of the arterial wall; in the latter case an aneurismal sac might eventually be formed by the surrounding tissues. The authors contended that aneurisms occurred only when the emboli were derived from a heart affected by a form of the so-called ulcerative endocarditis. Mr. George Pollock mentioned another case, in a boy, aged 14, who was also the subject of ulcerative endocarditis. Dr. Percy Kidd went largely into the history of the subject, pointing out that the late Dr. Kirkes had been the first to suggest that embolism was sometimes the cause of aneurism, especially in the brain, and that Dr. Goodhart had first started the idea that the character of the embolism was of importance.

By the death of the widow of Sir Erasmus Wilson, the well-known dermatologist, the Royal College of Surgeons becomes possessed of over a quarter of a million sterling. Probably the income derived from this sum will be used for maintaining and extending the museum, and possibly for creating a real pathological institute such as does not now exist in England. Pathology is not in a very forward state in this country, if one may judge from the dreary evenings spent by the Pathological Society. Sir James Paget is, it is said, to be the next President of this Society, and possibly his influence may tend to stimulate the members to move a little out of their common groove: the constant contemplation of large or small tumors in usual or unusual situations quickly palls upon most members, and the audience, therefore, commonly consists of young men. At the last meeting some little sensation was produced by the exhibition of a chondrifying sarcoma removed from the male bladder: but the astonishment, however, caused by its appearance gave way to merriment when Mr. Butlin suggested that the tumor, which was but small, must have got into the wrong bottle!

The General Medical Council has held another session,—the last it will hold as at present constituted. The new members have been elected by the profession during the past week. Dr. Bruce, a general practitioner in Dingwall, is the successful candidate in Scotland; though not yet officially announced, it is known that Dr. Kidd has succeeded in Ireland, and that Mr. Wheelhouse, of Leeds, Sir Walter Foster, of Birmingham, and Dr. Glover, of London, have beaten their eleven opponents in England. These three gentlemen were those selected by what has been known as the "Birmingham Committee," which undertook to choose three candidates when the British Medical Association at Brighton failed to arrive at any conclusion. The members are reported to be: Wheelhouse, 8548; Foster, 7718; Glover, 6614. Dr. Glover is a general practitioner in the North of London, who has long been connected with the *Lancet;* Mr. Wheelhouse was formerly a general practitioner, and is now a consulting surgeon, in Leeds; while Sir Walter Foster is a physician in Birmingham and lecturer on medicine in the medical school there.

The committee appointed by the Pharmaceutical Conference at its last meeting appears to be appalled by the magnitude of the task it has undertaken: its commission is to make investigation as to (1) formulæ for flavoring preparations (elixirs); (2) the best form and the best preparations of new drugs; (3) the composition of mixtures sold by advertising wholesale chemists under a variety of fancy names. The committee would publish formulæ for rival mixtures which could be prepared by all manufacturing chemists, and might thus supplant the advertised mixtures.

The General Medical Council also has ap-

pointed a "reporter" to make preliminary abstracts of new works in pharmacy and to test their accuracy: the reports are to be used by the Pharmacopœia Committee in keeping the British Pharmacopœia up to date.

DAWSON WILLIAMS.

ST. LOUIS.

RECENTLY the following interesting case of supposed primary carcinoma of bone occurred in the practice of Dr. H. H. Mudd, of the St. Louis Medical College.

The patient, a man 69 years of age, had complained for four months of pain in the right leg, which was supposed to be rheumatic until about last July, when a little ulcer appeared in the skin over the head of the tibia, through which a sanious discharge issued: he took to his bed about a month later, and was and had been under the care of the family physician until the consultation with Dr. Mudd was held.

When Dr. Mudd first saw the case, ten days before operating, the popliteal space was filled with pus, the head of the tibia was perforated and the site of what seemed to be the result of an osteitis. A drainage-tube was passed through the tibia and across the popliteal space, bringing it out posteriorly. A few days later another accumulation of pus below and to the inside was drained.

There was little or no tumefaction of the bone. Amputation was advised and performed. There was evidence of destruction or rapid breaking-down of the bone. After the bone had been cut through, the medulla was seen filled with a mass somewhat different in appearance from marrow, and the medullary cavity enlarged at the expense of the bone, and the bone was much thinner about the tumor. The neoplasm examined microscopically proved to be a carcinoma.

No evidence of a primary tumor was found anywhere. The patient died twelve days after the operation: he was well advanced in life, and in poor condition at the time of the operation. The stump had healed, however, before the patient died. A post-mortem was not obtained.

Rapid disintegration and suppuration, without any evidence of a tumor (except the fluctuating tumor in the popliteal space, which proved to be an accumulation of pus), were marked features of the case.

Dr. C. E. Michel recently performed a double cataract operation before his class at the Missouri Medical College, using the "modified method." The patient lived at a distance, was poor, and both cataracts were ripe, and, to save her time, expense, and trouble, she and the doctor arranged to have both eyes operated on at the same time.

At the time of the operation the iris protruded and was returned. After the operation the lids were lightly closed, leaving a slight opening between them (not closing them to exclude the light), and a plaster of gold-beaters' skin applied one and a half inches long by half an inch wide to "fix" the lid; patient put to bed and kept quiet. In his cataract cases Dr. Michel does not bandage the eye and place the patient in a dark room, as is the usual practice, but treats the case in the open light, and lays but slight restraint on the movements and actions of the patient. The patient in the case under consideration was up and about on the fifth day after the operation; walked two blocks and appeared before the class on the eighth day, at which time the hernia of both irides was remedied by performing double iridectomy. Three days later she was up and about; she never complained of the light: she could "feel" it, but it gave her no pain.

This "open method" of treatment has been used by Dr. Michel for a period of twenty years, and always with good results. He claims to be able to have evidence of any threatening mischief by inspection, and thus be able to combat it earlier than by the method in vogue, where it is necessary to wait until the patient complains of pain before it is known that trouble is brewing, and then the bandages are removed and strong light allowed suddenly to enter the eye for purposes of examination, thereby increasing the existing inflammation.

He says the retina in cataract is not inflamed, so why should light be excluded? It does endanger inflammation from irritation later on, when the eye is exposed to light after having been bandaged. The bandage, instead of keeping the corneal wound in apposition, would tend to do the opposite, as pressure is made on the lid, and through it on the eyeball, by means of the compress. He thinks nature has made the best provision for the adaptation of the edges of corneal wounds by compression in the lid, which closely fits the eyeball: and if it be drawn down to cover the wound, and "fixed" with a piece of plaster, it is the best of all fixed dressings.

In a second case, operated on before his class at the St. Louis Poliklinik or Post-Graduate School of Medicine, the patient, a woman, was 65 years old. Graefe's method was used: the after-treatment was as above (the "open-light" method). On the fifth day after the operation she was up and about; on the eighth day the plaster was removed, and the patient was going about as usual.

He treats iritis in the open light, uses no shade or coverings, and patients go and come without protection.

This would lead me to speak of the Poliklinik, where the last cataract and the iritis were seen. It is about eighteen or twenty months old, and now has clinics which compare favorably with clinics anywhere. The Laryngological, Dr. W. C. Glasgow director, is very large, and reminds one of some in

Vienna; the Gynæcological is under the charge of Dr. G. J. Engleman; General Medical, B. G. Robinson; and the Genito-Urinary and Surgical, Dr. H. Tuhalske; the Ophthalmic department has been referred to already, and the Dermatological is one of the best. The *chef* of this department, Dr. W. A. Hardaway, is well known in the East and abroad as a clinical observer and writer.

A short time ago in his clinic a case of dermatitis exfoliativa infantum (V. Rittershain's disease) occurred which was typical in the extreme. It is the third case that has occurred in Dr. Hardaway's practice. The child, a female 6 weeks old, was observed, very soon after birth, to have red spots on hands and feet looking like a burn. When brought to the clinic the disease occupied the greater part of the body,—viz., arms, legs, face, chest, and some small areas on the abdomen and back. The epidermis exfoliated in large lamellæ, leaving the skin shining and of a violaceous hue; the buccal mucous membrane was slightly involved, and the anterior nares were occluded with crusts. In general, there was no moisture, but the folds of the skin about the elbow and shoulder and knee were cracked and fissured, and here a little moisture was noticeable, as also about the mouth and possibly about the ear; no constitutional disturbance; mother and father both healthy people, and other healthy children in the family.

The treatment consisted in free inunctions with vaseline. Patient remained away from clinic a few days and came back again, to remain away then for good. It was learned at the clinic that the patient died about a week after the date that it was to return to the clinic.

St. Louis now has four medical schools. The aggregate number of students is about as usual, though the attendance at the individual schools is somewhat less than it was last year, owing to the establishment of a new (fourth) school,—the Beaumont Hospital Medical College,—which has about sixty students. It was organized last spring, and is giving its first course. It contains some men of considerable merit, having a corps of nineteen professors and one demonstrator. It requires but two years' study prior to graduation. The Missouri Medical College has about two hundred students. It is now known as the Medical Department of the State University of Missouri, students being privileged to attend their first course or courses at the State University at Columbia, and their last at the Missouri Medical College in St. Louis. Two years obligatory; three years advised. This school has made a step in the right direction by establishing a biological laboratory, and by giving a systematic course on the use of the microscope, the director of this department being Dr. L. Bremer.

The St. Louis Medical College, of which Dr. Hodgen was for years dean, has recently made a number of changes in its faculty. Dr. Elsworth F. Smith, Professor of Clinical Medicine (and, before there was a separate chair for it, also of Pathology), resigned last spring, and is now Emeritus Professor of that chair; Dr. W. E. Fischel was made Clinical Professor of Medicine; Dr. L. Charles Boislinière, Professor of Obstetrics and Gynæcology, resigned, being now Emeritus Professor of Obstetrics, Dr. Scott taking the chair of Obstetrics, and Dr. Barret, who for a long time had been Lecturer on Gynæcology, was appointed to the new chair of this title. Dr. Barret died in August last, and his chair is now temporarily filled by Dr. Schwarz. Dr. B. J. Primm is the new Professor of Anatomy, Dr. Mudd, the retiring professor, reserving Surgical Anatomy as a connecting link to the chair of Clinical Surgery, which he has held since Dr. Hodgen's death.

The different medical societies are well attended, and usually have interesting meetings. The St. Louis Medical Society is the largest in point of numbers. It meets weekly in the Polytechnic Building; it has a good library and a large number of periodicals. The Medico-Chirurgical follows in point of numbers, having semi-monthly meetings in the large hall of the Poliklinik. One of its features is the reading of volunteer papers at regular intervals by members, who also have a nice library, where may be seen files of almost all the medical journals printed.

A small but excellent society is the "Verein der Deutschen Aerzte," which has a membership of about twenty-four, and an average attendance of eighteen. Each member is obliged in his turn to read a paper or demonstrate something. It is strictly a working society.

The profession is improving rapidly here; men are working hard; more students are taking long terms of study, and many indulge in finishing touches; for that purpose the Post-Graduate School was started. The profession is improving in appearance and in social standing too. Years ago, a physician riding in a carriage or coupé was looked on with a little disfavor; now, however, the gentlemen with good practices all have carriages or coupés; it has gotten to be "the thing." In St. Louis, as in New York and Philadelphia, the better class of physicians have their offices at their homes, or, at any rate, in the immediate vicinity; in fact, all strive to have them at their homes. Some of the offices are beautiful in appearance and splendid in their appointments. The surgeons who formerly had "students" as assistants now have first-class men as such, rapid advances in education having demanded experienced and well-schooled assistants. Many of the larger general practitioners are acting similarly.

Persons practising medicine in this State are required to register. The State Board of

Health requires a diploma from a reputable medical school or "five years or more of the practice of medicine prior to 1883," the year the law was passed. The City Board of Health requires registration, the desideratum being a certificate from the State Board.

The Anatomical Association, consisting of the teachers of anatomy of the various chartered medical colleges in Missouri, is engaged in the attempt to get a new Anatomy Act passed, since the existing statute for regulating dissection is practically almost prohibitory. The proposed act is essentially similar to the acts of Pennsylvania and Illinois, which are said to work satisfactorily.

November 19, 1886. W. S. B.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA NEUROLOGICAL SOCIETY.

A STATED meeting was held October 25, 1886, the Vice-President, CHARLES K. MILLS, M.D., in the chair.

Dr. MORRIS J. LEWIS read a paper on

A PARTIAL STUDY OF THE SEASONAL RELATIONS OF CHOREA AND RHEUMATISM.

Dr. WHARTON SINKLER said that this paper was valuable and interesting, because it showed the close relation between chorea and rheumatism, which has been denied by some authors. For instance, Sturgis had two hundred and nineteen cases of chorea in the Hospital for Sick Children in London, of which number twenty per cent. also had rheumatism; but he did not attach much importance to this connection, because, as he stated, fifteen per cent. of all children have rheumatism. Other writers have expressed the same views. This paper also seemed to prove the relationship between the storm-centres and the occurrence of attacks of rheumatism and chorea.

Dr. G. E. DE SCHWEINITZ reported

EIGHT CASES OF TOBACCO-AMBLYOPIA, ONE COMPLICATED WITH DISEASE OF THE SPINAL CORD.

Since 1854, when Mackenzie showed that defective vision might be produced by tobacco-smoking, and since ten years later, when the subject was renewed and enlarged by the observations of Hutchinson, tobacco-amblyopia has become one of the well-recognized facts of ophthalmological science. As is well known, progressive and usually equal failure of vision, unimproved by optical therapeutics; a feeling of wretchedness on the part of the patient; an ill-defined ophthalmoscopic picture; and a symmetrical oval scotoma in the fields of vision, lying between the fixing point and the blind spot, and often including both, in which the perception of green and red is especially defective, constitute the marked symptoms of this affection.

[Notes of the eight cases are omitted.]

In three of the cases reported the ophthalmoscopic examination revealed "hazy disks," either with or without full dark retinal veins (Cases I., II., and III.); in two, if the last record be included in the list, there were no fundus changes (Cases VII. and VIII.). In one the optic nerve was pallid, the arteries rather small,—perhaps the appearance of beginning atrophy (Case IV.); and in one the nerve showed evidences of gray atrophy (Case V.), while in another the appearances were those of a subsiding neuritis (Case VI.). Three of these cases are perfectly typical instances of tobacco-amblyopia (Cases I., II., and III.); and two of them, if not characteristic cases, at least showed the result of tobacco-impression (Cases VII. and VIII.). Case IV. is an atypical one, inasmuch as the scotoma surrounded the fixation, but did not include it or pass to either side, and, furthermore, is noteworthy because of the fact that the tobacco found its entrance into the system by absorption through the skin: this woman worked in tobacco, but did not use it. Case V. may be one of those rare instances in which a central scotoma appears with a spinal atrophy of the optic nerve; but, inasmuch as the man used tobacco, although moderately, its influence cannot be excluded. An almost precisely similar case is recorded by Gowers ("Medical Ophthalmoscopy," p. 111). In Case VI. it is doubtful if the use of tobacco produced the scotoma, although, as in the last instance, the patient was accustomed to its use, and hence its influence cannot be excluded. The whole subject of tobacco-amblyopia has so often and so thoroughly been discussed, notably by Mr. Nettleship ("St. Thomas's Hospital Reports," 1878), that it is useless to do more than report these cases and point out the features that are interesting.

Dr. B. ALEX. RANDALL remarked that some ophthalmologists disbelieve in the existence of tobacco-amblyopia. Very few cases have been put on record in which the influence of alcohol could be wholly excluded; but the combination of alcohol and tobacco is certainly a serious disturbing element in a number of cases. This affection is constantly coming under notice,—occurring some eight or ten times in a thousand cases. While the scotoma is usually of an oval form, he had seen it distinctly annular (as in Case IV.) in a case typical in other respects.

It has recently been claimed that the absolute quantity of nicotine used does not bear that relation to amblyopia that we should infer, and that those who smoke the finest cigars are more liable to this affection than those who smoke the poorest and strongest.

Dr. JAMES HENDRIE LLOYD asked if this

affection were due to neuritis or to some disturbance of the intraocular circulation. The cases reported suggested an interesting analogy between tobacco-amblyopia and peripheral neuritis, especially that form due to toxic agents. Is this a form of toxic neuritis of a special nerve?

Dr. J. MADISON TAYLOR, referring to one of the cases reported, asked if it were not possible to have a powerful effect from the absorption of tobacco by the skin and lungs. In children working or living in tobacco-shops he had in several instances seen profound disturbance of the heart as the result of absorption.

Dr. LOUIS J. LAUTENBACH remarked that there had always been an element of doubt about these cases, and that of late this had become stronger. There are cases reported in which alcohol has been stopped while the tobacco has been continued, and the patients have gotten well. Dr. Minor, of Memphis, reports eight such cases. In addition to the discontinuance of alcohol, he administered in these cases either iodide of potassium or strychnia. Nettleship, Foerster, and a few others have succeeded in curing some of these amblyopia cases by the discontinuance of tobacco alone. About two years ago, at the Philadelphia Eye and Ear Dispensary, he had experimented in this matter, and had cured a number of cases by removing alcohol, allowing them to use tobacco, without the use of any medicines. The same treatment had resulted satisfactorily in two cases treated in private practice. One case was that of a professional base-ball player, who was in the habit of drinking thirty-five or more glasses of whiskey and smoking from eighteen to twenty-five cigars a day. When examined, both eyes gave $V = \frac{3}{LX}$? The patient was directed to stop the use of strong liquors, but to keep on with his tobacco. In four days later $V = \frac{3}{XXXV}$. Vision continued to improve, although no medicines were used.

The condition which causes this amblyopia may be a slight grade of retro-ocular neuritis, involving only the macula lutea fibres, which may be induced not only by tobacco, but also by alcohol; lead occasioning it in some few cases. Depressed conditions of the system may probably cause it. This amblyopia with central scotoma is coming to be looked upon not as a special symptom of tobacco-abuse, but rather as an indication of the depression of the general system which may be brought about by various poisons.

Dr. WHARTON SINKLER referred to a paper published in one of the New York journals by Drs. Roosa and Ely, giving the results of the examination of a large number of workers in cigar-factories, many of those examined smoking a great deal. Only a very small proportion of these cases was found to present any defect of vision or any disorder of the nerve. He asked if, in the experience of other members, they had found that a large proportion of nervous diseases were attributed to tobacco. He saw but few patients at his clinic at the Infirmary for Nervous Diseases with nervous disorders which could be directly attributed to the use of tobacco.

A point to be remembered in the consideration of this subject is that a person who takes alcohol will use more tobacco than one who does not. If he stops his alcohol, he will take less tobacco.

Dr. MORRIS J. LEWIS stated that in studying the subject of writer's cramp he had found that in the majority of cases the use of tobacco increased the difficulty. A few out of forty-three cases said that it did no harm, and three said that it was of service.

Dr. FRANCIS X. DERCUM asked if those who used tea or coffee to excess, especially tea-tasters, presented symptoms analogous to those presumably caused by tobacco and alcohol.

Dr. B. ALEX. RANDALL said that there were some cases in which alcohol *could* be entirely excluded in the causation of this affection. As to the pathology of the trouble, it is interesting to note that he knew of no case on record of true neuritis in the sense of anything like a choked disk which had any apparent relation to tobacco-abuse, although such cases are not rare in lead-poisoning and other toxæmic conditions. In all cases of actual neuritis of the optic nerve, as in inflammation of other nerves, strychnia has to be carefully avoided in the acute stage. In most cases reported the use of strychnia had no injurious effect, and, in fact, caused or was followed by improvement. In some cases where strychnia has been given and the alcohol and tobacco both continued, recovery has taken place. The amount of poison required to produce a certain effect probably depends upon the constitution and condition of the patient. If the general condition is brought up, a given amount of the poison no longer has the same effect.

Dr. CHARLES K. MILLS, referring to the question of Dr. Sinkler, stated that his experience agreed with that of Dr. Sinkler, that nervous disorders are rarely attributable to the use of tobacco, although some cases of tremor and general nervousness and a few other affections undoubtedly originate in this way.

Dr. GEORGE E. DE SCHWEINITZ, in closing the discussion, said that he believed that in these cases there was an axial neuritis. He had no experience with the poisonous effects of tea and coffee. Some of the cases reported had recovered although the free use of spirits was continued. One of the patients continues to drink a pint of whiskey a day, and yet his vision has remained normal since the discontinuance of tobacco. The only way to reach a satisfactory explanation of this subject is to continue the experiments.

One object in presenting this series of cases was to call attention to the importance of a careful study of the field in nervous cases. If this were done more frequently, many interesting discoveries would probably be made.

Referring to the question of Dr. Taylor, he said that tobacco is freely absorbed through the skin, but inasmuch as it is rare to find scotomata under such circumstances he had reported the case.

Dr. FRANCIS DERCUM reported

A CASE OF UNUSUAL PARESIS OF THE FOREARMS.

Dr. CHARLES K. MILLS referred to three cases which had been reported a few years ago by Dr. Kerlin and himself. These cases were studied at the School for Feeble-Minded Children at Elwyn. The patients were brothers, and in them was a marked combination of pseudo-hypertrophy and muscular atrophy. One of the boys, who has since died, presented in the calves the typical appearance of pseudo-hypertrophy and also in one or two other isolated portions of the body. In the back, however, were all the distinctive signs of progressive muscular atrophy. In the second case the changes were principally those of progressive muscular atrophy. In the third there was a combination of the two conditions. Why in one case we get the pseudo-hypertrophic form, and in another the atrophic form, he was not prepared to say. He believed that in all cases there are cord- and nerve-lesions, but he did not know which of these was primary. In the treatment of such cases, that pursued in the present instance would seem to offer the most hope. He was in the habit of putting these cases on strychnia, iron, cod-liver oil, and similar tonic and nutrient remedies. He had never seen much benefit from local treatment, but if myositis was present he thought it worthy of a trial.

Dr. JAMES HENDRIE LLOYD said, with reference to the age at which this affection may develop, that he had recently seen a case in which a married woman, 30 years of age, who had been under treatment on several occasions without a positive diagnosis having been made, returned after an interval of four months with hypertrophy of the calf, lordosis, and other characteristics of pseudo-muscular hypertrophy. This was the first case which he had seen in which the disease had apparently occurred as a primary disease in an adult with no hereditary tendency.

Dr. WILLIAM OSLER remarked that some observations had been made by an English physician with reference to the atrophy which follows great use of the muscles. After examining the microscopic specimens, he agreed with Dr. Dercum in regard to the condition present in this case. There was no essential difference between the atrophic and the pseudo-hypertrophic form of the disease, and both may be present in the same case.

Dr. WILLIAM OSLER exhibited the following specimens:

PACHYMENINGITIS.

J. K. was admitted to the Drunkards' Ward of the Philadelphia Hospital on August 26, with delirium tremens, and died September 4. I did not see him during life, but from the account given by the resident physician he appears to have had an ordinary attack of delirium tremens without any paralysis, local or general. He was not in a condition to give a satisfactory account of himself. Death took place from exhaustion. The post-mortem showed an extensive pachymeningitis of the right half of the dura mater. The specimen presents layers of exudation two lines in thickness over the central portion of the dura, gradually becoming thinner towards the tentorium or the orbital surface. In these regions there was a delicate uniform sheeting on the dura mater and no hemorrhage had as yet taken place, but on examination with a low-power lens there could readily be seen a plexus of wide vessels. In the central part there were several layers of altered blood, alternating with colorless firmer exudation. The surface of the pia mater of this hemisphere was a little stained, but there had evidently not been any pressure upon the convolutions. There were no other lesions.

PHTHISIS—TUBERCULAR MENINGITIS—APHASIA.

J. McD., æt. 36, laborer, was admitted to the Philadelphia Hospital June 5, with phthisis. There was nothing special in his family history; five of his brothers and sisters had died from causes unknown to him. He had been ill for over eighteen months with cough, fever, chills, and sweats,—had brought up blood, and had had severe diarrhœa. When I saw him first, on September 4, there were signs of extensive disease in both lungs. Ten days before, he had two convulsions, after which he had some difficulty in talking. On the 4th he looked bright and intelligent: the pupils were dilated, and there was no paralysis. Expressed himself with difficulty. When asked his name, said *Joseph Mac*, but could not say the *Donald*. After several attempts, and a good deal of worry, he did so, and seemed much pleased. Some words he said clearly, others he could not. Thus, he could read the letters of the word *shaken*, but could not pronounce it. He was delirious at times during the next two weeks, and one night he got from the ward on the fire-escape. The aphasic condition improved somewhat. The eye-grounds were examined twice, with negative results. At the time of my visit on September 10 he had an epileptic seizure, strong spasm of respiratory muscles, and great lividity. Tonic spasms of arms gradually relaxing and becoming choreic. Facial muscles in violent action: face drawn

to the left, eyes to the right (strongly) and upward. He became unconscious the next day, and died on the 14th. The autopsy showed extensive disease of the lungs. The brain was large; at the base the membrane was thickened and infiltrated, and tubercles existed along the vessels. On exposing the Sylvian fissures, the pia on the left side covering the insula was very thick and studded with tubercles the size of a pin's head. The process was most advanced upon the three or four posterior gyri of the insula; the gray matter was reddened and soft; the third left frontal convolution was not specially involved; there were a few isolated tubercles on the pia, but the membrane was not thickened. In the right Sylvian fissure there were tubercles scattered along the vessels, and the arteries of the anterior perforated spaces presented many bead-like and oval swellings. The ventricles were dilated and their walls softened.

EMBOLISM OF RIGHT MIDDLE CEREBRAL ARTERY—CHRONIC NEPHRITIS.

J. W., laborer, aged 49, was admitted to the Philadelphia Hospital October 7, 1886. No special history could be obtained, as he was very dull and heavy. When I saw him on the 9th he was apathetic; answered questions with difficulty. The face was anæmic, and he had a decidedly renal look; the pulse was slow and hard, 60 to the minute; no increased heart-dulness, possibly a murmur at apex, but it was not at all distinct, and at base was very ringing. There were albumen and casts,—hyaline. The case was regarded as one of chronic interstitial nephritis.

On the morning of the 12th he had a hemiplegic attack. I found him at one o'clock P.M. comatose, with puffing respiration and complete left hemiplegia, including face; right pupil larger than the left. He died during the night.

The autopsy showed cirrhotic kidneys, slight atheroma in large vessels, moderate hypertrophy of left ventricle. The mitral valve presented recent vegetations, three in number, on the auricular face of segments, freely movable, and on the posterior flap a flattened area looking as if eroded. The right hemisphere of the brain looked fuller than the left, and the vessels were not so full, particularly in the central region; the vessels of the circle of Willis were denuded *in situ*, and the right middle cerebral just beyond the first two branches (temporal) was found plugged with the firm embolism here shown. It was very evident before opening the vessel, as it showed grayish-white throughout the coat, while on each side of it were dark clots, and the branches beyond it were very small. The embolus was firmly adherent, and had a small pale clot on its proximal and a firm dark one on its distal side. Examination showed it to be an endocardial vegetation, and it doubtless came from the rough spot on the posterior segment. The convolutions of the central portions of the hemisphere were swollen and œdematous, particularly the gray matter, and soft. There was a light gray-yellow tint, but there had not been time for much change. The right anterior cerebral was greatly enlarged, three times as big as the left, doubtless a compensatory process.

Dr. CHARLES K. MILLS remarked that cases of pachymeningitis hæmorrhagica were somewhat common in the Philadelphia Hospital. He had met with a comparatively large number of cases in making autopsies in that institution. A form of hemiplegia met with in the wards of this hospital is undoubtedly due to pachymeningitis hæmorrhagica. These cases make partial recoveries, and then again break down, and at the autopsy is found the condition exhibited to-night. He had reported one case five years ago, with a number of other cases, in the English journal *Brain*. This condition is sometimes mistaken for embolism, hemorrhage, or some other form of disease producing hemiplegia.

In some of the cases he had seen there had been distinct naked-eye flattening of the convolutions of the motor region, which he supposed accounted for this peculiar, variable form of hemiplegia.

Adjourned.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, NOVEMBER 4, 1886.

The President, B. F. BAER, M.D., in the chair.

DR. JOSEPH PRICE exhibited specimens from two cases of

PYOSALPINX.

Dr. M. PRICE exhibited specimens from one case. All of these were of gonorrhœal origin. Those by Dr. J. Price were removed from prostitutes. That exhibited by Dr. M. Price was from a married woman who had been infected by her husband. The tubal disease manifested itself soon after childbirth. The menstrual period had always been very painful, and had kept her in bed from eight to ten days.

Dr. HOWARD A. KELLY exhibited a

SARCOMA

as large as a man's head, which he had removed from the anterior abdominal wall. It had its origin at the transverse tendinous band of the right rectus muscle, just below the umbilicus. The mass was about eight inches by ten, and hung pendulous under the greatly thickened skin of the right umbilical, inguinal, and iliac regions. The great point of difficulty was in determining before operation whether the mass did not spring from a

small hernia slipped through the umbilical ring, which was greatly drawn out on one side over the tumor, and deep in which the fibre-like cords of attachment could be felt. The tumor was very vascular, but was readily removed, and the patient made a perfect non-febrile recovery.

Dr. KELLY also exhibited a specimen upon which he desired a report by the Microscopical Committee. The case was one of great interest,

AN OVARIAN PREGNANCY,

upon which Dr. Kelly had operated within the past twelve hours.

The patient, a German woman who had had one child by forceps delivery two years ago in Germany, had since been regular in her menstruation until October, when she went two weeks over time, and was then roused in the night by sudden violent pain in the right leg and groin, extending obliquely down the right ovarian region. With the pain came a profuse uterine flow, which lasted for two weeks, with intermissions. From excellent health she was immediately prostrated and became miserable, with elevated temperature and quick pulse. She had no organic disease, but a small tumor at the extremity of the right Fallopian tube. The tumor was about two and a half or three inches in diameter, softish, not sensitive, freely movable in the pelvis. In front of this a sharply-defined round ligament could be traced out to the brim of the pelvis, and above this the flatter cord of the Fallopian tube could be felt. The ureters were enlarged, as Sänger has noticed and as the speaker has frequently verified in pregnancy. The uterus was of a size approaching two months' pregnancy, and the cervix was remarkably soft for the early stage of pregnancy.

Dr. Kelly sent invitations to Drs. R. P. Harris, J. G. Allen, Freeman, John and Frank Haynes, Joseph Hoffman, George Horn, and William Ferguson to be present at an abdominal section for extra-uterine pregnancy, and in their presence the operation was carried out. (The patient up to date of publication has made uninterrupted progress towards recovery.) Dr. Kelly also exhibited a chorionic membrane from a uterus, with a four weeks' fœtus attached.

Dr. BEATES remarked that the lining membrane of the cyst was easily separated from the wall, and he thought the specimen was most probably a parovarian cyst.

Dr. JOSEPH PRICE thought the cyst could be entirely shelled out. He considered that it had none of the characteristics of a tubal pregnancy.

Dr. KELLY, in closing the discussion, demonstrated in the extra-uterine and in the uterine specimens an identical membrane which could be detached, and which was the amnion. He demonstrated ovarian tissue completely surrounding the cyst, thus proving that it was not parovarian in its origin. The lining membrane underlying the apparent amniotic membrane is a soft tissue never seen in an ovarian cyst. The specimen was referred to a committee.

Dr. LONGAKER exhibited a fibro-myomatous substance which had been expelled from a uterus twenty-three days after normal labor. The placenta came away entire; there was a post-partum hemorrhage on the second day. In the third week a rise of temperature occurred. The temperature became normal after the expulsion of this mass.

Dr. KELLY said that, judged by the macroscopic appearance of the specimen alone, and with great certainty in view of the history, this flat elongate mass with one semicircular rounded edge, and with long shreds hanging to it, was a portion of a retained placenta. A question is by this brought up upon which it is of the utmost importance that every member of this Society should have positive convictions, in order that our practice should be uniform, and that is, What shall be done in the case of a puerperal woman who has an elevated temperature and a foul-smelling discharge from the vagina? When other manifest cause was absent, he thought that every such patient should be placed in a convenient posture and the uterus thoroughly scraped with a dull curette, to be followed by a swabbing with an antiseptic. Thousands of women to-day suffer from neglect of this simple precaution of removing stinking shreds of decidua and pieces of placenta, which, remaining, cause subinvolution, chronic endometritis, and cellulitis lingering for years, or even a more acute and rapidly fatal septic process. Dr. Kelly prefers the lateral semiprone position for convenience of exposure and manipulation, considering the objections which have been urged against this as purely theoretical.

Dr. BAER would prefer the patient on her back for scraping or washing out the uterus after labor, using tincture of iodine or bichloride solution.

Dr. BEATES has made it a rule, whenever the temperature rises after labor, to introduce the finger or curette into the uterus and remove any adherent masses.

Dr. LONGAKER, in closing the discussion, said that he had not the slightest doubt that the specimen had been a fibroid tumor buried in the tissues of the lower portion of the uterus: the contraction and involution of the uterus cut off its supply of blood and partially enucleated it. Time was required for this process. The rise of temperature did not excite immediate suspicion, as the case was a hospital one and the wards were crowded at the time.

Dr. BEATES, on behalf of the committee, stated that the microscopic examination of the "ovarian fibroid" presented by Dr. Baer

at the October meeting showed it to be a neoplasm developed from the epithelium of the ovary: it was a true scirrhus, with nothing ovarian about it except its origin.

HYSTERORRHAPHY.

Dr. HOWARD A. KELLY read a paper, written for the Society in the spring of this year, upon a new operation, which he called hysterorrhaphy, or the *suspension by suture* of a *viciously-posed uterus*,—that is, an organ prolapsed or retroflexed which it is impossible to relieve by any line of treatment applied per vaginam.

The speaker first applied this method April 25, 1885, upon a patient who had been under the care of several other specialists and under his own care for nearly three years. The uterus had lain acutely retroflexed, with a large soggy fundus in Douglas's pouch, below the level of the cervix. Months of rest in bed, combined with careful packs and counter-irritation, and for a long time applications to the endometrium, failed to cure the flexion even temporarily.

The patient had been operated upon a year previously, removing a very tender ovary per vaginam. On this occasion the left tube and ovary were removed, and, as the right tube could not be felt, he concluded that it had atrophied. The uterus was then raised and a sharp band of cicatrix-like tissue felt half encircling it in the angle of flexion, when the futility of any attempt to relieve the condition from the outside was at once evident. Silk sutures were passed through the left horn of the uterus, and the body suspended from the anterior abdominal wall, about one and a half inches above the pubis, to the left of the incision. The suspensory sutures were passed between two ligatures encircling the horn and the base of the pedicle, to avoid the dangers of tearing out and of bleeding.

The uterus, thus suspended, remained in place one year, when the right tube enlarged to a hydrosalpinx, and just before operation for its removal dragged the fundus over.

Dr. Kelly urged that in future both cornua be utilized and attached between one and a half and two inches above the pubes, to allow room for free expansion of the bladder; and, again, that while in most instances the disease is of such long standing as to involve chronic incurable disease of the appendages and to necessitate their removal, yet in some cases the good effects of drainage of the latter, which are raised with the body, should be tried. The operation is to be urged where the long-retroflexed, infiltrated uterus is unable to stand up straight alone after removing diseased ovaries and tubes; and if adhesions bind the fundus down, they should be carefully severed.

He also insisted that the operation for shortening the round ligaments was not admissible for retroflexion alone, as, owing to enormous mechanical disadvantage, the slightest degree of relaxation would allow a reproduction of the deformity.

While in simple prolapsus, if a suprapubic operation of any sort were ever necessary, which the speaker doubted, he would prefer a simple, aseptically-made, abdominal incision and direct support by attaching the fundus to the anterior abdominal wall, to an operation which has a doubtful and possibly a high rate of mortality, and of which the ratio of success is even more problematical.

The operation has been devised and performed independently by a number of prominent gynæcologists in various parts of the world, among whom are Koeberlé, Bardenheur of Cologne, Hennig of Leipsic, Czerny of Heidelberg, a surgeon in the north of Italy, and Lawson Tait; probably Keith, and two cases, not published, which Dr. Sänger of Leipsic kindly gave the writer during the past summer.

Dr. DRYSDALE remarked that he had performed a second operation upon a lady upon whom, eighteen years previously, Dr. Atlee had performed ovariotomy for the removal of an ovarian tumor. At the first operation the uterus was found prolapsed. In this operation Dr. Atlee had used the clamp to secure the pedicle, and at the second operation the uterus was found attached to the original wound. The prolapse had been effectually cured. He thinks both cornua should be secured to the abdominal wall. He had never met with a case of retroversion that could not be relieved by pessary after curing the accompanying endometritis. Many years ago, a lady who had been for eight years under the care of Dr. H. L. Hodge for retroversion, and in whom the presence of a pessary excited such expulsive efforts that it could only be worn a week at a time, came under the care of Dr. Drysdale. He treated the endometritis first, and, when it was cured, a pessary could be retained, and complete relief was secured.

Dr. JOSEPH PRICE remarked that Tait considers it dangerous to stitch the fundus uteri to the abdominal wound, and has abandoned it. In some operations he introduces sutures to draw the uterus high up, that he may more readily remove the tube close to the cornua.

Dr. BAER thought it seemed the most natural method to stitch the fundus to the abdominal wound. He asked why Dr. Tait had considered it to be dangerous. He thought the field of Dr. Kelly's operation would be small, as, when the endometritis was cured, a pessary or other support would relieve the retroversion or flexion. After laparotomy or removal of the uterine appendages, it might be advisable in some cases to draw the uterus up. He had had no experience with such a procedure. He did not like the Alexander operation; he considered it unscientific, and

in many cases it has failed to cure the displacement.

Dr. LONGAKER feared that, granting that anteversion could be secured by Dr. Kelly's method, the bladder would not be allowed to expand; a fixed anteversion would itself be pathological. He would hesitate to stitch the fundus to the abdominal wall, even after removal of the appendages. Retroflexion does not necessarily produce discomfort, as some cases have no symptoms to call attention to the condition.

Dr. HARRIS recalled the case of Mrs. Reybold, whose uterus was suspended for fifty years. She died at eighty. The senile organ was drawn out into a tongue shape: the uterine attachment was one and a half by three-fourths inch at time of death. The uterus was four and a half inches long, and the vagina was lengthened and cord-like. There had always been a tender spot in the cicatrix, probably from tension.

Dr. KELLY stated, in reply, that he considered the main points which had been raised had been already answered in the paper. He considered these cases as rare, and by no means recommended a resort to section and suspension without first trying every other known expedient likely to relieve, and then only in those cases in which the local disorder causes such pain or disability as to render life a burden. He considered the operation advisable, however, in those cases in which, after removal of the appendages, the flexed organ failed to remain upright when lifted into position. An occasional resort to hysterorrhaphy will not affect the table of recoveries from operation, but will affect the list of patients *cured*, which is not always made so prominent after abdominal section.

W. H. H. GITHENS,
Secretary.

PHILADELPHIA ACADEMY OF SURGERY.

A MEETING of the Philadelphia Academy of Surgery was held December 6, 1886, the President, Dr. D. Hayes Agnew, in the chair.

Dr. Charles W. Dulles read a paper on a case of "Properitoneal Hernia."

DISCUSSION.

Dr. William Hunt: As we know, very curious coincidences happen in surgery. Within the past three weeks Dr. Agnew and I saw a case of the kind described by Dr. Dulles. A physician called on me on a Friday, three or four weeks ago, telling me that he feared that he had overlooked a case of strangulated hernia in a gentleman sick since the previous Monday or Tuesday. The symptoms had excited his suspicion as to the existence of such a condition, but the patient denied that there was any lump in the groin, and refused to permit any examination. I went to see the patient at once, and found a condition of affairs that was new to me, notwithstanding the large number of hernias that I have seen. There was no testicle in the right scrotum, but a lump in the canal proved to be the undescended testicle. Above the testicle was a lump which, while dull on percussion and not gurgling on manipulation, presented such peculiarities that I asked further advice, and Dr. Agnew was called. We then passed an exploring needle, but obtained nothing but bloody serum. An exploratory incision was decided upon. I cut down, and at once, after passing almost entirely through the abdominal wall, reached a mass of omentum. There were no signs of a sac. Underneath this were two or three knuckles of intestine. Passing my finger deeply, I found a stricture corresponding to the internal ring, but formed of tissues much stronger. This was divided, and a large mass of omentum, which was approaching a gangrenous condition, cut off. The intestine was then returned. The man died within twelve hours, but no post-mortem was allowed. This is evidently a case similar to those described to-night. The cause assigned for the refusal to permit an examination in this case was the man's shame on account of the absence of the testicle.

Dr. J. H. Packard: I am not sure whether or not I have understood Dr. Dulles, but my idea of a properitoneal hernia is a condition of things in which a diverticulum of the peritoneum has formed near the inguinal opening, and that this sac, thinned out, may make its way either between the layers of muscles directly under the skin or perhaps directly in front of the peritoneum.

I would also ask if the hernia recorded by Baron might not have been a case of that form of hernia mentioned in the text-books in which there has been a protrusion, then thickening of the wall of the sac, this being followed by a second protrusion?

Is there any record of a case of peritoneal hernia which existed by itself? Has there been any case in which there has been simply a diverticulum of peritoneum, the sac being closed in the ordinary position?

Dr. O. H. Allis: I should like to refer to a case which I had a few years ago. Dr. Packard has spoken of the manner in which a hernia is sometimes formed by the pushing down of a portion of the sac. Some time ago I was called to operate on a patient who had had hernia for years, and who had frequently reduced it. On this occasion he reduced it, but in the course of an hour he found that he had not reduced it properly, and sent for a physician, who, not being able to reduce it, sent for me. I operated, and found it necessary to go deeply. Passing my finger as high as I could, I could just touch the stricture. This I divided, and reduced the hernia. I imagined that in that instance one of the sacs was above Poupart's ligament.

I was called to see a case with Dr. Porter, in which the physician thought that he had reduced a hernia. On operating, a mass of omentum in a gangrenous condition was found lying in the outer opening. While discussing what our further course should be, the tissue slipped into the abdominal cavity. The patient had fecal vomiting for a few days, but eventually recovered. The first case might come under the head of properitoneal hernia made so by the attempts to reduce it.

Dr. C. W. Dulles: In reply to Dr. Packard, I would say that I have met with no recorded case in which properitoneal hernia existed as a simple condition. It has always been a complication of inguinal hernia. In a certain sense, the case described by Dr. Allis would be properitoneal; but this term is only applied to those cases in which the hernia has become properitoneal by a slow process. His case might be called one of properitoneal hernia by force.

From my study of the subject, I would say that it is not a difficult matter for one on his guard to diagnosticate correctly and treat correctly a case of properitoneal hernia. I did not care to go into the proper treatment of these cases; but it is governed by general surgical principles. There are cases on record which have been most successfully treated by an independent laparotomy and drawing the intestine back, instead of pushing it.

A POINT IN THE TREATMENT OF PERITONITIS.

Dr. Charles B. Nancrede: I wish to allude to a point in the after-treatment of such cases as that described by Dr. Dulles. The treatment usually recommended in peritonitis is the use of large doses of opium, and I have myself been in the habit of keeping patients very thoroughly narcotized. If the inflammation comes on gradually, with elevation of temperature, etc., I see no particular disadvantage in treating the case in that way if the patient is seen at frequent intervals. There is, however, a certain number of cases in which the affection comes on in a different way. The temperature is normal, or subnormal in some cases, the heart's action is almost imperceptible, the skin is clammy, and there is a depressed state of both mind and body. In such cases, where there is vaso-motor paresis, to give opium simply because peritonitis is suspected will surely kill the patient; whereas if opium is given in small doses, with positive doses of atropia, especially hypodermically, the patient will react (perhaps to die eventually), and give you the chance for a few days more of treatment of the peritonitis. Again, in the later stages of peritonitis, especially where the temperature does not run high, where tympany comes on, where hypostatic pneumonia appears, and the respiratory and cardiac centres are failing, instead of pushing the opium, it should be stopped and large doses of atropia employed. This stimulates the cardiac and respiratory centres, and gives the patient the benefit of a few more days of treatment. While many are familiar with this principle, yet all do not act upon it. If in the conditions which I have mentioned opium were absolutely withheld, I think the results would be more satisfactory.

Dr. S. W. Gross: In describing his case, Dr. Dulles stated that he had punctured the intestine with a small aspirating needle for the relief of the tympany. In this case the opening remained patulous, although the patient died before peritonitis had time to develop. Nothing could be more injudicious than the use of this procedure in such cases. When in Mexico last spring, I was invited by a distinguished surgeon to witness a post-mortem. The case was one of intestinal obstruction in which large quantities of fluid had been forced into the bowel, and for the relief of the great distention of the abdomen puncturing the intestine with a trocar had been resorted to. There were two strictures of the intestine. The bowel was distended to a degree that I had never before seen. The opening made by the trocar was thoroughly patulous, and fecal matter had extravasated into the peritoneal cavity, the man dying of peritonitis. If any opening is made in these cases, it should be made with the smallest possible instrument.

Dr. J. Henry C. Simes: I have seen one case in which the needle of the ordinary hypodermic syringe was introduced into the intestine. At the autopsy the opening was surrounded by beginning gangrene, and with the greatest ease fecal matter could be forced through the small opening.

The President, Dr. D. Hayes Agnew: Speaking of puncturing of the intestine, I may say that in the case mentioned by Dr. Hunt the needle was introduced for diagnostic purposes. I do not believe in the introduction of a needle, however small, into the intestine for the liberation of gases. I know of no good that comes from this procedure. It is quite possible that in the case mentioned by Dr. Simes there might be some other explanation than that the condition was due simply to the small opening made by the hypodermic needle.

Dr. C. W. Dulles: I punctured the intestine in this case with considerable trepidation, but the condition was an extreme one. I have recorded the fact partly because it serves as a warning against this practice.

Adjourned.

[NOTE.—A correction should be made in the reference (foot-note on page 159, *ante*) to Dr. Nancrede's case of gunshot-wound of the abdomen. The suggestion of Dr. Gross was that septic *intoxication* caused death,—not septic *mortification*, as it appears in type.]

REVIEWS AND BOOK NOTICES.

House-Plants as Sanitary Agents, or the Relation of Growing Vegetation to Health and Disease. Comprising also a Consideration of the Subject of Practical Floriculture, and of the Sanitary Influence of Forests and Plantations. By J. M. Anders, M.D., Ph.D., etc. Philadelphia, J. B. Lippincott Company, 1887. 8vo, cloth, pp. 337.

Growing flowers are welcomed in the sick-room not merely for æsthetic and sentimental reasons, but because they demand sunlight and reasonably pure air; so that they are good company for the invalid. The real amount of our indebtedness to plant-life is very imperfectly understood, and not at all appreciated. Dr. Anders has called attention to a subject which has been almost ignored,—the sanitary relations of house-plants. The usual query is, "Will plants do any harm in the sick-room?" In this book many cases are cited where distinctly therapeutic effects were obtained by a judicious use of vegetation in the sick-room, and this quite exclusive of the moral effect as affording a subject of pleasurable interest to the sufferer. Dr. Anders disposes of the theory that growing plants can give rise to malaria, and reports experiments demonstrating their wholesome influence, both in preventing disease and in restoring health.

Congrès Périodique International des Sciences Médicales. 8me Session. Copenhague, 1884. Compte-Rendu publié au Nom du Bureau par C. Lange, Secrétaire Général. Tomes I., II., III., IV. Copenhague, F. Hegel & Fils, 1886.

The proceedings of the last International Medical Congress are at last published, and form four good-sized octavo volumes, of from 130 to 210 pages each. The papers are valuable and the discussions interesting. The attempt to conciliate conflicting interests by the publication of polyglot discussion in English, French, and German gives the proceedings a peculiar, perhaps unique, character that is not without attraction: we feel, however, that it would be more appropriate to adopt one language, either French or Latin, as the official language of the printed work of the Congress, even though German and English be permitted during the oral discussions.

Transactions of the American Surgical Association. Volume Fourth. Edited by J. Ewing Mears, M.D., Recorder of the Association. Philadelphia, 1886.

A report of the meeting at Washington has already appeared in these pages; the present handsomely-printed volume contains the addresses, essays, and discussions in full. A number of illustrations have been introduced which add to the attractions of the volume, which is not inferior to any of its predecessors in variety or value of its contents.

The works of Professor James E. Garretson have been published in a special edition for holiday gifts. They are put up in sets of four 16mo volumes, handsomely bound in neat vellum cloth, with gilt top and rough edges. These essays afford a healthy intellectual exercise to those who have a philosophic turn, the author possessing the art of vigorous and easy diction and the faculty of keeping the reader's mind on the alert.

NEW REMEDIES AND CLINICAL NOTES.

The Pathology of Infantile Cerebral Paralysis.—In an article reporting four cases of cerebral paralysis in children, Dr. R. Norris Wolfenden makes the following observations upon the pathology of these interesting cases, which, as he justly remarks, is obscure:

"As in infantile spinal paralysis, the motor gray matter is the seat of the lesion,—in the spinal form the anterior horns, in the cerebral the gray cortex. In all old cases of infantile cerebral paralysis Strümpell has found porencephalic defect in the cerebral motor area, the result of an inflammatory process, and thus not *congenital*, that is, due to arrested development. Gaudard considers it a meningo-encephalitis of the motor region of the cerebral cortex, and also allows that it may be due to embolic or thrombotic softening or cerebral hemorrhage. Strümpell says it is always inflammatory, and the nature is indicated by microscopic examination, which resembles the inflammatory microscopic appearance of the spinal gray horns. Wohlmuth found the right hemisphere in one case affected with pachymeningitis, and about one-third its natural size.* It must be remembered that Gowers† has attributed the sudden hemiplegias of childhood to thrombosis of the longitudinal sinus, or veins opening into it. This leads to shrinking and induration of the cortical areas. The question is whether the disease is really a variety of spastic hemiplegia. It seems to me to bear a remarkable resemblance to spinal paralysis, and I cannot resist the thought that it is a similar affection of the cortical area of the brain, as Strümpell affirms. Pathological observations on this point are much required; meanwhile, the question may be considered *sub judice*, with strong probability that the disease is really a newly-described variety of hemiplegia in childhood, pathologically resembling acute spinal paralysis, in that it is an inflammation

* Aerztlicher Verein zu München, 24 Feb., 1886.
† Diseases of Brain, p. 194.

of the motor cells of certain areas of the cerebral cortex, leading to permanent loss of function of the part, due to subsequent atrophy and destruction of this area.

"Of course infantile hemiplegia is very common, but the importance of Strümpell's contention is in recognizing this particular form of hemiplegia in children, clinically so well characterized, as a cortical form of 'essential paralysis' closely allied in its pathology to the spinal disease."—*The Practitioner.*

COCAINE NOT A DANGEROUS TOXIC AGENT.—Dr. W. A. Hammond reported the results of some experiments with cocaine hydrochlorate to the New York Neurological Society, in the course of some remarks upon cocaine and the so-called cocaine-habit. He believed that the injurious effects of coca had been greatly exaggerated: having injected cocaine hypodermically, commencing with one grain, and day by day increasing it until he administered to himself eighteen grains without serious symptoms of poisoning beyond intense exhilaration and subsequent headache. In each of his experiments the diuretic influence was evident. Cases to which he had given the remedy for some time were able to discontinue it abruptly without ill effect; he therefore denied that a cocaine-habit exists which is at all comparable with the opium- or alcohol-habit.—*The Medical Record*, November 20.

NOTES AND QUERIES.

TOXIC SYMPTOMS FROM ATROPINE USED FOR ACUTE CORYZA.

Having been pleased at the prompt relief afforded to two cases of acute coryza by the use of sulphate of atropine, I determined to test its value. Upon seeing Miss E., æt. 25, of a highly excitable nervous organization, suffering with an attack of acute coryza, I ordered sulphate of atropine, gr. $\frac{1}{150}$, which was taken about 10 P.M. In a short time she slept, but in an hour was awakened by dryness of the mouth and a "smothering feeling." The druggist was ordered to furnish two granules, each of gr. $\frac{1}{100}$. As these conditions increased in severity, two hours later, the mother, upon her own responsibility, administered the remaining dose. In a few minutes the patient experienced increasing dryness of the throat, accompanied by a sensation as if the tissues were being forcibly torn apart; the tongue increased in dryness and adhered to the roof of the mouth; the nostrils felt parched and hot; articulation was almost impossible; the pupils were widely dilated; respiration became rapid and shallow, being accompanied by a sensation of imminent suffocation, causing her to sit up and gasp for breath, while there was increased rapidity of the heart's action (pulse 120–140); and the skin was covered with a bright scarlet rash.

In forty-eight hours, after appropriate treatment, the system had regained its usual condition. The coryza was dispelled.

There was no error in preparing the doses, as I was present when the medicine was obtained. Unusual susceptibility to the drug—gr. $\frac{1}{60}$ having been taken—will explain its poisonous effect on this patient.

CHARLES BAUM, M.D.

630 NORTH BROAD STREET,
December 6, 1886.

DR. A. JACOBI, of New York, wishes the fact published that he has resigned from the Committee on the Collective Investigation of Diseases of the International Medical Congress, and that pamphlets and communications relating thereto shall no longer be addressed to him, but to N. S. Davis, M.D., No. 85 Randolph Street, Chicago, Illinois.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 5, 1886, *TO DECEMBER* 18, 1886.

MAJOR A. A. WOODHULL, SURGEON.—Ordered for duty at post of Fort Leavenworth, Kansas. S. O. 138, Department of the Missouri, December 3, 1886.

MAJOR JOHN W. WILLIAMS, SURGEON.—Ordered for duty at Jackson Barracks, Louisiana. S. O. 205, Division of the Atlantic, December 14, 1886.

MAJOR B. F. POPE, SURGEON.—Relieved from duty in the office of the Surgeon-General of the Army, and will report in person to the president of the Army Medical Examining Board in New York City, for duty as member and recorder of the board. S. O. 285, A. G. O., December 9, 1886.

BENJAMIN F. POPE, MAJOR AND SURGEON.—So much of S. O. 285, A. G. O., December 9, 1886, as directs him to report in person to the president of the Army Medical Examining Board, New York City, for duty as member and recorder of the board, is revoked. S. O. 287, A. G. O., December 11, 1886.

CAPTAIN JOSEPH K. CORSON, ASSISTANT-SURGEON.—Leave of absence extended seven days. S. O. 288, A. G. O., December 13, 1886.

CAPTAIN F. C. AINSWORTH, ASSISTANT-SURGEON.—Will repair to this city and report in person to the Secretary of War, and on completion of the duty which may be required of him will return to his station (New York City). S. O. 280, A. G. O., December 3, 1886.

CAPTAIN FRED. C. AINSWORTH, ASSISTANT-SURGEON.—Relieved from duty as recorder of the Army Medical Examining Board, New York City, and ordered to report in person to the Surgeon-General of the Army for duty in his office. S. O. 282, A. G. O., December 6, 1886.

CAPTAIN H. S. TURRILL, ASSISTANT-SURGEON.—Ordered for duty as post-surgeon, Fort Spokane, Washington Territory. S. O. 209, Department of the Columbia, November 29, 1886.

CAPTAIN EDWARD C. CARTER, ASSISTANT-SURGEON.—Leave of absence extended six months. S. O. 281, A. G. O., December 4, 1886.

FIRST-LIEUTENANT CHARLES C. BARROWS, ASSISTANT-SURGEON.—Granted leave of absence for two months, to take effect when his services can be spared by his post-commander. S. O. 285, A. G. O., December 9, 1886.

FIRST-LIEUTENANT GEORGE F. WILSON, ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply to Headquarters, Division of the Missouri, for an extension of twenty days,—to take effect about December 15, 1886. S. O. 125, Department of Dakota, December 1, 1886.

FIRST-LIEUTENANT R. R. BALL, ASSISTANT-SURGEON.—Ordered for duty at Fort Riley, Kansas. S. O. 144, Department of the Missouri, December 13, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING DECEMBER 11, 1886.

PASSED ASSISTANT-SURGEON H. T. PERCY, U.S.N.—Ordered to Naval Academy, Annapolis, Maryland.

PASSED ASSISTANT-SURGEON ERNEST NESFLEET, U.S.N.—Granted three months' sick-leave.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDED DECEMBER 18, 1886.

BANKS, C. E., PASSED ASSISTANT-SURGEON.—Granted leave of absence for twelve days, December 16, 1886.

CARRINGTON, P. M., ASSISTANT-SURGEON.—Granted leave of absence for fifteen days, December 6, 1886.

WILLIAMS, L. L., ASSISTANT-SURGEON.—Upon expiration of leave, to proceed to Boston, Massachusetts, for duty, December 17, 1886.

COLLEGE OF SURGEONS OF ENGLAND

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 8, 1887.

COMMEMORATIVE ADDRESS

Delivered January 3, 1887, at the

CENTENNIAL ANNIVERSARY OF THE INSTITUTION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

BY S. WEIR MITCHELL, M.D., LL.D.,
President of the College.

WE are met this evening to commemorate the hundredth birthday of the oldest medical society in America which is not a State organization. New Jersey and Massachusetts have State societies of older date, which of necessity met rarely, and were chiefly meant to give unity, force, and discipline to a profession the members of which were widely scattered over a thinly-peopled country.

One hundred years ago the grave and kindly man whose portrait hangs above me at our meetings met the Fellows of this ancient College as their first President.

In words which quaintly represent to-day my own feelings, John Redman expressed his sense of the honor then conferred upon him and of the responsibility created by such an audience; "for," said he, "when I look around me, I see so many gentlemen of character for learning, ingenuity, and integrity in the profession and practice of physick, and some whose talents have early called them forth into publick notice and offices of dignity in the medical line, and who have conducted therein for many years so much to their own reputation and to the advancement and satisfaction of their pupils and of their fellow-citizens."

At the close of his address he confesses that his mind has taken a more serious turn, and says, "I think it is very becoming in us at the commencement of this our institution to acknowledge the Supreme Being to be our sovereign Lord and Ruler," and thus goes on into a simple and straightforward prayer, "that through all the days of this College they who sat about and all who are to come publickly and privately serve their generation faithfully, according to God's will, that they may find rewards beyond the grave."

When John Redman thus seriously addressed the founders of what he called "a collegiate society" he was sixty-five years of age. He was born forty-one years after William Penn laid out this city. The men he so feelingly counselled were all his juniors. He looked back over the larger part of a century, during which his new-born country had leaped to sturdy life and set an example that had helped to bring unthought-of changes to its great European ally,—a century of disturbing political and social thought, fertile in revolutionary activities.

To understand the men over whom he presided, to comprehend the inheritance of examples they left us, to realize, above all, how peculiar have been the relations of the physician to the social and political existence of Philadelphia, it is necessary to look back through the century which preceded the foundation of this College.

The history of any profession in connection with the progress and growth of a new country is of the utmost interest, and of no profession is this more true than of ours. The bar, the army, the navy, and, in other lands, the church, have distinct natural relations to the government, but the physician has none, and in monarchial countries this fact has served to create for him annoying social limitations which are but too slowly fading as communities grow into intelligent disregard of feudal traditions. His position in any community is a fair test of its good sense. But in new lands, peopled by the self-selection of the fittest, by those who have the courage of enterprise, and the mental and moral outfit to win for it success, the physician is sure to take and keep the highest place, and to find open to him more easily than to others wealth, social place, and, if he desire it, the higher service of the State. Nowhere was this more true than in this city. In New England the clergy were for a long time dominant. In New York, then, as now, commercial success was the surest road to social position. South of us it was the landholder who ruled with undisputed sway. But in this city—I may say in this State—from the first settlement until to-day the physician has held an almost unquestioned and somewhat curious pre-eminence. He is, and always has been, relatively a more broadly-important personage here than elsewhere.

If this be not as clear to you as it is to me, let me remind you that in every legislature of this Commonwealth you will find a dozen members of our profession who have for a time taken up the duties of lawgivers, intending to return again to their practice. I observe on the list of our Fellows to-day many men—and they are of our best—who have been or who are directors of insurance companies or saving-funds, or even of banks, a thing almost unheard of in cities where the lower civilization of commerce is dominant. You will find them also, in unusual numbers, on our collegiate boards. Our great charities are never without some of them in their councils, and the Philadelphia Library is obliged, under the will of James Rush, to have in its direction three physicians. In our hospital boards, and still more largely in our learned societies, they are equally well represented.

Says a learned historian, writing of the

Philadelphia of 1828, "Nothing struck me so much as the social force and influence of the physicians. I was familiar with other cities, and nowhere else did they seem to me to be so distinctly the leaders of social life."

The exceptional position which we occupy here is in a large measure due to the good fortune which early in our history directed to these shores a remarkable group of physicians, the friends and co-religionists of Penn.

As I am chiefly addressing Pennsylvanians, I shall not venture to say much of men whose names are still familiar. I desire, however, to show what breadth of liberty they had to do things which nowadays would scarcely be regarded as within the legitimate career of the largest-minded physician. Edward Jones, chirurgeon, came over in 1682. His father-in-law, Thomas Wynne, set sail in the "Welcome," with his friend William Penn, in that same August. These were both physicians of gentle breeding and of the best education their day could offer. Thomas Wynne was an active practitioner of physick, and yet found time to become President of the first Assembly which met in the province, and in which sat also his son-in-law Jones. Both of these men lived to hold many offices of political trust and honor in their adopted country.

Next in our medical genealogy comes Thomas Lloyd. There is what was called in Friends' phraseology a testimony* concerning him, which, heard pleasantly across the turmoil of nearly two centuries, tells how that "he had a great practice, . . . and generally good success, whereby it was often his lot to be amongst many of account in the world. . . . Yet, being a man of tender spirit, he was conscientiously careful over his patients, whether poor or rich."

In the new land he sought for conscience' sake he was still for a while a physician. How, think you, did he find time to act as Deputy-Governor under Penn, President of Council, Keeper of the Great Seal of the Commonwealth? Apparently the good and great William Penn took care of his physician, for we hear that his friend Dr. Griffith Owen held the posts of Member of Assembly, Deputy-Master of the Rolls, and Commissioner of Property.

The early part of the next century was as fortunate. Lloyd Zachary, the grandson of that accomplished physician and trusted ruler, Lloyd, was the first physician elected to the Pennsylvania Hospital, and was what we would call Port Physician in 1725. He shared this duty with Thomas Græme, a Scotch physician, who arrived with Governor Keith in 1715. Besides being thrown into large practice by the death of Griffith Owen, this gentleman was at various times Naval Officer, a Councillor, Master in Chancery, and at last Chief Justice of the Supreme Court, for which we may note that he received fifty pounds a year. He was the first president and the founder of the now ancient and still useful St. Andrew's Society for giving aid to destitute Scotchmen, assisted to create the Philosophical Society, was with Zachary, the two Bonds, Moore, Cadwalader, and Redman, of the first staff of the Pennsylvania Hospital, and died in 1772, Collector of the Port. On his tombstone, in Christ Church yard, it is said of him, and it would seem with justice, that

> "The soul that lived within this crumbling dust
> In every act was eminently just;
> Peaceful through life, as peaceful, too, in death,
> Without one pang he rendered back his breath."

The men I have here so briefly described were, with the exception of the last, of the Society of Friends; Græme was of the Church of England. The great struggle between the Presbyterian settlers of the interior of the State and the followers of Penn was now in full tide. Already other sects than those of Penn began to be prominent, and henceforward we find physicians of eminence who were not of the creed of Fox, but neither in the seventeenth nor the eighteenth century do we observe in Pennsylvania what was very common in early New England and New Jersey,—men doubly occupied as physicians and clergymen.

To the new group of men belong, also, the two Kearsleys, to one of whom, John, a member of the Assembly, we owe the interesting spire of Christ Church and the endowment of Christ Church Hospital for Reduced Women. Kearsley's pupils—or, as was then said, apprentices—were all natives of the country, and among them were Zachary, Cadwalader, William Shippen, Sr., the Bonds, Cadwalader Evans, Redman, Bard, and John Kearsley, Jr. Bard speaks with energetic disgust of his master's exactions. The pupil was constantly subject to his orders. He carried medicines to the sick, or prepared drugs for use by his master in his daily rounds; he made fires, kept the office clean, and did other less agreeable duties commonly devolving nowadays on servants.

William Shippen, a founder of the College of New Jersey, was, with Redman, the only one of Kearsley's pupils alive in Philadelphia when this College was instituted. An active Presbyterian, he was a trustee of Princeton College and of the College of Philadelphia, vice-president of the Philosophical Society, one of the staff of the Hospital, and, later in life, a member of the Continental Congress.

Thomas Cadwalader was a descendant of Wynne and Edward Jones, and, like the men of his day, active in scientific societies, hospital work, and the stormy politics of his time. Unlike the Bonds and Kearsley, he was a stanch Whig, and his two sons, John and

* Levick, J. J., "Early Physicians of Philadelphia," etc.

Lambert, were both soldiers of distinction. His sedate visage hangs in your hall to justify the words in which John Redman regretted that he had not lived long enough to become the first officer of this body. "One," he says, "on whose age, character, and reputation for medical ability and respectable deportment to and among us, as well as his generous, just, and benevolent temper of mind and great acquaintance with books and men and things, and proper attention to times and seasons, would, I am persuaded, have pointed him out as our first object." He is sure that his name will readily occur to the Fellows. "Nor need I mention it," he adds, "but that I naturally recollect with pleasure the name of our worthy and well-respected brother, and my much esteemed friend, Thomas Cadwalader."

He grieves, in like manner, that Thomas Bond could not, also, have preceded him in office, "a man of judgment and skill, of indefatigable assiduity to the last in the practice of physick and surgery."

I should have found it difficult to say less as regards the notable personages who came and went on the scene of our Colonial history, and who brought to their medical work the tastes, manners, and education of gentlemen, and to its completeness high-minded sense of duty. It was needful that I spoke of them in order to show how perfect has been the good fortune which, from the day when the "Welcome" brought us Thomas Wynne up to the present hour, has failed not to give us like men, gifted with like intellectual qualities, holding the same lofty traditions of honor and industry, ready to take up our unending task whenever an older and wearied generation laid it down.

The century was in its last third. A new group of physicians, nearly all young or in early middle age, and trained in an eventful war, had come upon the stage. The city contained about forty-five thousand people. It was the seat of government and of the largest social life the land afforded. Still predominant in commerce, it was also active in education and science. The College of Philadelphia had been for a time suppressed, the University had been medically organized, the Federal Constitution was in debate, and Washington, a man of fifty-six years, was resident in Philadelphia. Fitch was constructing his first steamboat.

Who first suggested the formation of this College is unknown, but, as many of our Fellows were educated in Edinburgh, it is likely enough that the success of its Society, which dated from 1733, may have led them to imitate it here. I have myself seen on its diploma the name of "Caspar Wistar Præses annuus."

We know as little of the earlier steps taken towards the foundation of this College. John Redman, your first President, says that "at the first meeting to organize ourselves by choosing proper officers and members so as to constitute a body," he was elected President. He adds, "I went home under a strong impression of the weight both of the office and my obligations to you." Then he tells us that he was unable to attend the next meeting, and apparently it is at a third meeting that he delivers the address from which I have already quoted. Its faded ink and formal, patient writing seem to take one back to a less hurried era, and speak eloquently of the busy years which have come and gone since my serious-minded predecessor looked forward hopefully anticipating your future usefulness.

It would seem that the College was organized some time in 1786, but as to this we have no record other than that just mentioned. The first meeting of which we have a minute took place January 2, 1787, and to this date we have always referred as our natal day.

On that 2d of January, 1787, in the evening, in a little house used by the University, and known as Surgeons' Hall, on Fifth Street south of Library, assembled a portion of the notable group of men who then constituted this College. By the dim light of candles, for which I have found the modest bill, clad after the fashion of the day, some in Quaker dress and some in knee-breeches, silk stockings, and low shoes with buckles, most of them carrying, I fancy, the gold-headed cane and the meditative snuff box, some with queues or powdered wigs, a fading fashion, were John Jones, William Shippen, Jr., Adam Kuhn, Benjamin Rush, Thomas Parke, Gerardus Clarkson, Samuel Duffield, James Hutchinson, William W. Smith, Andrew Ross, William Clarkson, James Hall, William Currie.

The full roll of Fellows and junior Fellows in January, 1787, adds the names of John Redman, John Morgan, George Glentworth, Abraham Chovet, Benjamin Say, Samuel Powel Griffitts, Benjamin Duffield, John Morris, John Carson, John Foulke, Robert Harris.

Before our charter was obtained in 1789, there were added Nathan Dorsey, John R. B. Rodgers, Caspar Wistar, Jr., James Cuningham, Charles Moore, Michael Leib, John H. Gibbons.

They were in all twenty-four when they met in January, 1787, and thirty-one when they were incorporated in 1789. Only three of their names are to-day represented on our present list; but many more are familiar to your ears, and, if we include the men I have previously mentioned, you will find that a large share of the best-known families of our city trace their lineage from one or other of this memorable group. It would, in fact, be easy to give you a long catalogue of families distinguished in our national and local history, or in our social life, who inherit the blood of one or more of the physicians I have named

or have yet to name; but, as some of those here present may have the misfortune not to be able to claim the honor of medical ancestry, I generously refrain.

The portraits of many of these notable personages ornament our halls, and tell in their ruddy complexions of men who lived much out of doors and often in the saddle, and illustrate the changes which time is making in the physical conditions of our race. Here are descendants of the settlers who, armed only with the courage of good intention, came to the wilderness with Penn, or followed soon after. Welsh or English nearly all of them, but two represent the German element; only four have middle names, as to which a curious change is seen in the later years.

The older men generally sign first. The President was sixty-five; Jones, fifty-eight; Morgan, Shippen, and Kuhn, each fifty-one.

These were physicians who assisted at the troublous birth of a great nation. I fancy that I can see in their resolute faces the lines left by the sorrows and trials of those eventful years when they rode with the great Virginian and shared with him the hardships of doubtful campaigns and the triumphs of Princeton and Yorktown. Among them were the friends and physicians of Washington, Franklin, Hamilton, Jefferson, and Adams. They held to their medical opinions, as we shall see, with the same absolute belief that controlled their political actions, and were nearly as ready to fight for the one as for the other. As to their medical ancestry, the best of them had been educated at Edinburgh, which school is the parent of our University. Genealogically, we might speak of our College and of the University as children of Edinburgh and grandchildren of Leyden.

Linger with me a little, and learn who and what were these our medical forefathers,—the men who had won fame and matured character on the field and in the hospital wherewith to face the yet darker hours of the deadly plague so soon to thin their ranks.

The most illustrious of our profession are not always the most lovable. Your first President, John Redman, was a man whom all men respected and all men loved. He spent a year at Edinburgh, was graduated at Leyden, in 1748, under Albinus, and returned home to practise finally only medicine, declining midwifery and surgery. In his medical creed he was a sturdy follower of Sydenham. Like the most of his fellows, he bled without hesitation and believed that the American needed more positive treatment than his degenerate British ancestor. Except his thesis on abortion, a defence of inoculation, and his excellent account of the yellow fever of 1764, he left little behind him. A man gentle without lacking force, religious without a trace of bigotry, and finding in his faith only larger reasons for cheerfulness. Quick of temper and as quick to regret it; punctual, charitable, exact, a type of what the practice of our profession makes out of the best characters, he constantly declined political place. We are told "that he suspended pain by his soothing manner or chased it away by his conversation." One would like to possess the secret of this anæsthetic kindness. He died in 1808, at the age of eighty-six, and, we are told, was mourned and missed most by the destitute, being like that physician of whom Somervile says,—

> "For well thy soul can understand,
> The poor man's call is God's command."

John Jones, our first Vice-President, was of another type. His two grandfathers were Edward Jones and Thomas Wynne. He went abroad early, and again at a later date, and became the warm friend of Hunter and Pott. In 1755 he served with Sir William Johnson in the French War, settled in New York, and left it when it was occupied by the British. For a time he sat in the Senate of New York, then entered the army, and in 1778 settled here, where he succeeded Redman in the hospital, became the first president of the Humane Society, and was physician to the Dispensary until his death in 1791. We owe to him the first American book on surgery, in 1775. He dedicated it to Cadwalader, and says, "If I cannot cure the fatal disease of my unfortunate country, I can at least pour a little balm into her bleeding wounds."

John Jones was of the Society of Friends, and lies, since 1791, after their fashion, in a nameless grave under the maples in their Arch Street burial-ground. He was a man tranquil of temper, easy and polite, fond of poetry and belles-lettres; a surgeon so expert in lithotomy that he frequently operated for stone in a minute and a half. For this malady he attended Franklin, of whose philosophic cheerfulness he has left a clear account. In 1790 he went to New York to consult in the case of Washington, who suffered at that time from some acute disease of the lungs.

I pause to add that another of our Fellows, Plunket Glentworth, son of the founder George, also attended Washington in Philadelphia in 1797.* I have seen a letter to John Lewis, in which the illustrious patient says of this physician, "No nobler man or more skilful physician ever lived," and calls him his "estimable friend,"—almost the sole record of this Glentworth,—the friend of Washington.

Of John Morgan, one can only speak with admiration. There is in this State a portrait of him by Angelica Kauffman, and the excellent copy in our hall has all the charm of distinction and manly beauty. The student and friend of Hunter and the famous Hewson,

* The Hon. George Bancroft tells me that about this date Washington underwent an operation for some rectal disease, but as to its nature we know nothing further.

he knew well Voltaire and the great Morgagni, who gave him the noble copy of his works, now in our library, inscribing on the first page

"Viro experientissimo et humanissimo
D°. D. Joanni Morgan.
Auctor."

In his thesis on pus, Morgan anticipated Hunter's theory of its origin from the blood. He came home, aged twenty-nine years, a Graduate in Medicine of Edinburgh, Member of the French Academy of Surgery, Fellow of the Royal Society, and with the honors of the Colleges of Edinburgh and London, to found the University of Pennsylvania, and to serve as Director-General and Physician-in-Chief of the army in 1775. He lies now in old St. Peter's churchyard. His dignified vindication of his army career is almost all we have left us of a brilliant and well-loved gentleman.

To speak of William Shippen, Jr., would be almost to repeat what I have said of his friend Morgan. His friends in London were the same, and also, we may add, the high-minded Fothergill and Sir John Pringle. The war made him Director-General, and I may pause to add that Potts, a Pennsylvanian, and Tilton, one of our earliest associate Fellows, held a like position. William Shippen was our second President, a handsome man, gay and yet dignified, so amiable that through life he is said to have made no foes,—a doubtful formula of praise. He left a great name as a happy lecturer, and was the first of that remarkable series of anatomical demonstrators whose names are so familiar to us all.

Adam Kuhn, son of the physician and magistrate, Adam Smith Kuhn, came home in 1768 from his European studies at Edinburgh and Upsal. I find in the *Eclectic Repertory*, vol. viii., a number of very pleasant and interesting letters from Linnæus to the father and to the son. He speaks of the latter as an amiable, correct young man, beloved of all, and for whom he cherished a paternal affection. The younger physician he directly addresses in after-days as his dear friend, and, in letters simple, affectionate, and delightfully full of chatty remarks about plants and animal life and gossip of domestic affairs, calls him his cherished son; speaks of his engaging deportment, his unwearied ardor in cultivating science. In 1772 he refers apparently to having named a plant after his young friend, and says, "I am yours while I live." There must be more of these genial letters. In their pages flowers seem to bloom and humming-birds to flutter as the great naturalist, with gentle envy, pictures the wealth of plant and animal life awaiting his pupil's study in distant Pennsylvania. The daily needs of life may have rendered the pursuit of science difficult to Kuhn. He lectured in 1768, one year, on botany, then on materia medica twenty-one years, and in 1789 became professor of theory and practice in the University, was our third President in 1808, and died in 1817. He left scarce a trace behind him; but no one can read his manuscript lectures, now in our library, without a full sense that the world lost something by the indifference or want of ambition of this learned physician.

With reverent doubt of my powers to do justice to the greatest physician this country has produced, I approach the task of briefly recalling to your memories the vivid and emphatic personality of Benjamin Rush. His life invites a less hasty biographer, and is full of such seeming contradictions as can only be explained by the belief that the earnest, decisive, and mutinous nature of a man proud rather than conceited got the better of the principles by which he honestly strove to guide his conduct. That he won at last in this contest was shown by the grief with which a nation mourned his death, when the poor in crowds besought a sight of his face, or, at least, to touch his coffin. Look at his portrait by Sully in our hall. It has the scholar's hands, the largely-modelled head, the contemplative blue eyes of the observer, the nose and chin strong, firmness in the mouth, and a trace of too critical tendencies in the droop of the lines of the lips, withal a general expression of tranquil benevolence, a face like the man's life and character, full of dissimilars, with a grand total of good.

How shall I briefly bring before you the career of this restless being? Relentless energy drove him through a life in which ardent sense of duty, large-minded philanthropy, love of country, devotion to his art and its science, immense belief in himself, were the motives to industry, which made note-books the companions of his student youth, and which failed not until the pen fell from a hand enfeebled by the close approach of death.

He was a statesman, a scholar, an army surgeon, a punctual and careful physician, an actively religious man, a far-seeing and courageous philanthropist, and a sanitarian far in advance of his day. These are what I might call four careers, in all of which he excelled unaided by secretaries or modern means of condensing and relegating labor: one such suffices most men. He was a member of every important political assembly which met in this State while he lived. When timid men fell out of the Continental Congress, he was elected to that body, that he might sign the Declaration of Independence, and was the only practising physician whose name is on that energetic arraignment of the Crown. I have neither time nor desire to speak of his relations to Washington. He criticised him with his usual courage and with a severity in which at that time he was not alone, and, although later in life he somewhat relented, he never

quite forgot the bitterness which arose out of his too famous letter, and to the end of his days looked upon the great leader as one not above the judgment of his fellows. As regards the patriotism of Rush there can be no doubt. It approached the earnestness of religion, and its very intensity made him unhappy and critical when others seemed to him to be showing that want of energy which in the first years of the war he thought was seen in the Fabian policy of Washington.

Rush was surgeon-general to the Middle Department, and later surgeon general, and served faithfully in the New Jersey campaign and in the dreary camp at Valley Forge. He resigned in 1778, after his difficulty with his chief, and declined pay for his services.

As a broad-minded philanthropist, I view him with wonder. The higher education of women he urged as a special need of a Republic, and as boldly wrote of public punishments and against the penalty of death. With like courage he denounced slavery, or turned to demand legislation against the abuse of alcohol, or to implore care in the use of this agent in disease, and, although a scholarly man, eloquently represented the waste of time in the too general study by the young of the classical tongues.

On his medical career I cannot linger. His views as to bleeding were extreme. They were greatly modified in his latter years, but have been misrepresented by the enmity his positive nature excited, and can be fitly judged, not by his occasional vigor of statement, but also by the many tampering remarks to be found in his works. His ideas on the contagion of yellow fever and its domestic origin excited the hostility of commerce, and embittered his existence; but, although as to the former he changed his beliefs later in life, as to the latter he seems never to have faltered.

I presume that he held his opinions tenaciously, and was so conscious of his own general superiority to those about him, that he found it hard to weigh their reasons justly. He says, "I early discovered that it was impossible for me, by any reasonings, to change the practice of some of my brethren." Then he adds, "humanity was therefore on the side of leaving them to themselves, because what is done in these consultations is the ineffectual result of neutralized opinions; for the extremity of *wrong* in medicine, as in morals and government, is often a less mischief than that mixture of *right* and wrong which serves, by palliating, to perpetuate evil." How interesting is this irritable confession, which tells so much more of the man than he meant to put into it! Let me add, as a thoughtful physician, that no one can read what he wrote—and I have read most of it—without a strong sense of his sagacious and intelligent originality, and admiration of his clear and often fervid style. His work on insanity is a masterpiece. A recent English writer calls his book on "the bilious remitting yellow fever" a wonder, and says of that remarkable description of his sensations during the height of the epidemic, "it is as if he were talking to you, a ghostly whispering through a veil of nine-tenths of a century." He has been called the American Sydenham. He was not, as I see it, so great a physician, but, taking his whole career,—and both were earnest republicans,—Rush was the larger personage, and surely, next to Franklin, the greatest citizen of Pennsylvania.*

His bitterest foes are best remembered because of the man they reviled. Even before death came to heal all wounds, he stood where few men have stood in the estimate of men. He could not but feel this tribute. It gentled the positive and ardent nature, once ready to cross swords with all who dared to differ. He says, "I was once an aristocrat, then a democrat, now I am a Christocrat." Certain of his words should have been placed on his tombstone. With them we may leave him to his repose near the yet greater Franklin. "Posterity," he says, "is to the physician what the day of judgment is to the Christian."

Still among honored Philadelphia names we find next that of Gerardus Clarkson, chief of the founders of the Episcopal Academy, and brother of the Mathew Clarkson, emigrant from provincial New York to this gayer capital, who earned as mayor, in the yellow fever of 1793, a character for manly courage and self-possessed official calmness.

Benjamin Say, who comes next on our list, produced no great work, except his son, the eminent naturalist.

James Hutchinson was the ancestor of our honorary librarian, and, like him, a trustee of the University. There is a pleasant letter extant of the date of 1776, in which Fothergill recommends him to the Pennsylvania Hospital as a trained surgeon and a man of "unblemished character." He had a good deal to do with the union of the College and University in 1791. Like most of our first Fellows, he was a member of the Anti-Slavery Society. It is told of him that when the ship on which he came home from Europe was chased by a British cruiser, he escaped to the coast in an open boat under a heavy fire, to save the despatches Franklin had confided to his care. In 1771 Hutchinson was appointed by Shippen Senior Surgeon to the Flying Hospital of the Middle Department, and in the same year became Director of the Hospitals, Physician- and Surgeon-General of the

* Rush left letters, diaries, and also biographic memoirs of his contemporaries, without which no man can fitly judge him or them. Friends, relatives, and executors have been chary of publishing these records. Some of them I have read, and I think it only just to a great man that we should know all that there is of him to know. He was too great, too productive, too various, to lose esteem on account of anything he may have said or written of Washington.

Militia of the Commonwealth of Pennsylvania. He lived to serve through the war, and to become distinguished as a professor, to hold many posts of public trust, and to die of yellow fever in 1793.

George Glentworth, who comes next, was Senior Physician and Surgeon of the General Hospital of the United States, from 1777 to 1780. He, too, declined pay. It was he who extracted the bullet received by Lafayette at Brandywine fight, at the Indian Queen Tavern in Third Street. He lies now near the street in St. Paul's churchyard.

Of the cynical and merry Tory, Abraham Chovet, there is little to say. Dr. Physick told my father that, while living in London, Chovet tried to save a too adventurous gentleman, about to be hanged for highway-robbery, by opening his trachea before the hangman operated. The patient was rapidly removed after the execution, and is said to have spoken. A queer tale, but worth the telling. As the government lacked due appreciation of this valuable experiment, Chovet brought his queer Voltairian visage to America. You may see it yet in our library.

William Currie left theology for medicine, and served in the war. He is known chiefly by his excellent essays on climate and on yellow fever, and his support of the doctrine of its foreign origin as against Rush, with whom he agreed as regards the question of contagion. In his essays Currie wrote temperately of the matter, and without personalities.

I observe that this writer now and then speaks of the number of pulse-beats, and says the frequent pulse is the weak pulse. Numeration of the heart-beat is very rare in the writings of the last century, and is exceptionally found between the reign of Anne, when Sir John Floyer wrote his book upon it, and the year 1820, when French observers again called attention to its value. Occasional references to the number of the pulse are also found in Rush, but they are, on the whole, uncommon.

Men like ourselves know how hard it is to live up to the best standards of medical duty; know, also, what temptations, intellectual and moral, positive and negative, assail us all, and can understand the value and beauty of certain characters, which, like surely-guided ships, have left no permanent trace behind them, on life's great seas, of their direct and absolute devotion to duty.

Of this precious type was Samuel Powel Griffitts. He wrote little, although an editor of the *Eclectic Repertory*. All that he has left us is a paper in favor of vaccination, and an essay to prove that yellow fever, as a rule, does not attack a second time. He believed it contagious and of imported origin. The sanitary and philanthropic plans of Rush he heartily aided. In the battle with slavery and the penal code and against the abuse of alcohol, Griffitts was a steady worker; whilst the Humane Society, the Dispensary, the Friends' Asylum for the Insane, and the French refugees found in him a constant helper. But wherever he went and in whatever he did peace and gentleness were around about him, so that in every relation of life men and women eagerly trusted this simple, straightforward, intelligent, unambitious man. It is told of him that in forty years he scarcely ever missed his daily visit to the Dispensary, where he met, relieved, and counselled the poor. With one hand, it may be said, he distributed the bounty which his fellow-citizens intrusted to his care to the refugees from St. Domingo, while with the other he was busy sending vaccine virus to their revolted slaves. To the last day of his life he walked our streets in all weathers, averse to the use of a carriage, and thus, punctual, industrious, carrying into every vital relation trustful, unobtrusive religion, this kindliest of men, forgetful of no duty, died abruptly, escaping the pangs he had so often seen in others.

The peaceful Griffitts had, I believe, no relation to the War of Independence, but Benjamin Duffield was, like many other of our Fellows, an army surgeon. In the pest-house at Bush Hill he did manly service in 1793. A hospitable man, of genial humor; both wise and witty, it is said. The familiar seal of the College was probably of his devising, as he was chairman of the committee on this matter in 1787.

Of John Carson, born in 1752, little is known. He was a long time Surgeon to the City Troop, one of the founders of the Dispensary, Professor of Chemistry in the University after the death of Hutchinson, but died in 1794, before he had given a lecture.

Caspar Wistar, Jr., is a more familiar name. Like Rush, there is much of the man's life on record in the portrait by Otis, as the least observant may see. The face is strong and intellectual, the mouth large and full of good humor and mirth, the chin positive, a face thoughtful above, and below alive with promise of genial companionship. He could have been but sixteen when we hear of him as active in helping the wounded after the indecisive fight at Germantown.

He was graduated at Edinburgh in 1786, and left that city President of the Royal Medical Society, and with the warm friendship of Cullen, who later sent him his portrait, and was his frequent correspondent. He must have been the youngest of our corporators, as he was elected to the College in April, 1787, and was then but twenty-six years old. Two years after, he became Professor of Chemistry in the College of Philadelphia; he was made Adjunct-Professor of Anatomy, Surgery, and Midwifery in 1792, and in 1808 succeeded Shippen at the University in the Chair of Anatomy. Men spoke of him as a great teacher. He fortunately combined full

knowledge with fluency and intense interest in what he was teaching. His System of Anatomy, published in 1811, was our first native treatise on that subject.

He followed Rush as President of the Anti-Slavery Society, and Jefferson as President of the Philosophical. If a man's friends be in some sense a description of the man, among his were Humboldt, Michaux, Soemmering and Camper, Cullen, Hope, Jefferson, Warren, and Correa, the cynical and amusing Portuguese minister. You can see from these names that science occupied him, and especially anatomy, that the practical aspects of his profession were not forgotten, and that he was at home among those whose talk left to their surviving contemporaries vivid memories of an unusual social era. He is known still to most of us as the founder of the Wistar Parties, which owed much of their later social vitality to the hospitable houses of the leaders of our profession. When I was a young man and Wistar was long since in his grave, we were still familiar with the worn card of invitation which carried his vigorous profile with its formal queue from simpler days to those of champagne and terrapin, and until the fierce quarrels of the great war broke up this gay and joyous company. It was wickedly said that the doctors profited by those noble suppers. Even in their luxurious decadence they were delightful. Men who came to eat remained to chat. They left to me at least a gallery of pleasant portraits of some whose living talk would have made that good founder happy. Hear how Thackeray mourns a dead friend. "There will be," he says, "no more Whister parties for him. Will Whister himself, hospitable, pig-tailed shade, welcome him to Hades? and will they sit down—no, stand up, to a ghostly supper, devouring the ἰφθιμους ψυχας (the mighty souls) of oysters and all sorts of birds?" *

I have dwelt on this aspect of a full and wholesome, learned and useful life, because it well illustrates the social prominence of the Philadelphia physician. We may leave him with the words in which another described him: "Decorous, suave, honorable, and courteous, he forgot nothing except injuries."

Michael Leib, born in 1759, was the last Fellow of importance elected previous to our incorporation in 1789. His name occurs with honorable mention in the yellow fever records, but he left our profession early and became a brilliant leader in the Democratic party, and filled in turn the post of member of Assembly, and of the United States House of Representatives, and at last went to Congress as Senator. His great war speech of 1812 was long remembered, and he is said to have been for many years the political dictator of Philadelphia. He died in 1822.

* Haud immemor, p. 8. William B. Reed, 1864, Philadelphia.

The earlier Constitution was signed by Senior and Junior Fellows, but in August, 1787, it was readopted in a modified form, and thenceforward the appellation "junior" disappears, and we have only Fellows and Associate Fellows, and, very much later, Corresponding Members.

Up to its incorporation in 1789, the College was busy with private and public affairs. It adopted a seal, and substituted for *non sibi sed alii*, as proposed, *non sibi sed toti*.

It urged the legislature to create a botanic garden and public baths, and to limit the use of ardent spirits, wisely pointing out their hurtfulness, declaring them destructive to life and health, and as tending equally to dishonor character as a nation and to degrade our species. "They," the Fellows, "believe to be without foundation the prevalent idea as to use of spirits in heat and cold, and think malt liquors and cyder might be substituted."

The first effort towards a pharmacopœia was made in April, 1787, and the College ordered a committee to digest the business. This effort was, I believe, the first made in America in this direction. It was never long out of sight, but the digestion was laborious and incomplete until the Pharmacopœia Convention met in 1820.

The germ of our ethical code is to be found in April, 1788, when it was decided that

"To promote order and unity in the practice of medicine, it is agreed by the Fellows of this College that they will not attend or prescribe for any patient who hath previously employed any other Fellow of the College in the same illness, unless it be in consultation with the first physician or in case of sudden emergency, when the said physician is not present;" and then follow directions as to the conduct of consultations.

What was to become of the unlucky patient under this stringent rule does not appear. But codes of conduct, however needful, are difficult so to frame as to cover all contingencies, and the legislation of individual common sense usually intervenes to correct their too absurd application. The larger ethical code, founded chiefly on that of Percival, was accepted by the College in 1843.

In these early days the only death-record was kept by the churches, wherefore the College found need to appoint committees on this subject and on that of disease and meteorology.

Their value ceased in after-times, the city having assumed charge of registration, and the county that of the weather, which Parke found troublesome, in 1792, because he could not buy a barometer in the city of Penn.

The history of an old and learned institution is that of its members and its relation to public affairs. No man can hope in the scope of an address to set before you the shining roll of the men who have illustrated our story with duty done simply and in private, of patient,

charitable lives, of those larger existences which left their mark also on the science of their day, and to this memorable hour have sustained in noble succession the prominence of this city in all that lifts our art and its sister sciences above the common levels of applied usefulness. The task were hopeless, and belongs to the historian rather than to the orator.

But our relation to the public cannot be thus readily disposed of. The acts of single men help to give us collective power to interfere in public matters, and here this College has been up to this day potently active. To it came early for advice in all affairs of health and quarantine the city, State, and general government; and the minutes amply record that it has labored conscientiously to aid the Commonwealth and the city as to sale and importation of pure drugs, as to parks, water-supply, education, drainage, and the many other problems which call for advice and direction from experts.

To the physician epidemics are his battle-fields. His daily life is hard enough, and, unlike the soldier, he lives amidst constant perils, of which habit has made him negligently forgetful. He is assisted to be unthoughtful as to risks by the fact that the community thinks little of those which are not, like the soldier's, occasional, or which it does not largely share. You must have lost sense of heroism if you do not feel some thrill of pride when you look back with me over those sad years in which the Fellows of this College, amidst the contagion of terror, faced the storms of death which from 1793 to 1804 swept over this city and forever ruined its mere commercial supremacy.

Let us see how well this College met it. Several of its Fellows could recall the epidemic of 1762—the Barbadoes Plague—the dreaded yellow fever. Rush, a student, made notes of it in his constant way, and Redman, an older man, described it with accurate skill. A few hundred died, and for thirty-one years the great town flourished undisturbed. For two years the College had at times been urgent as to quarantine, but selfish, short-sighted commerce had been more potent. On the 25th of August, 1793, a special meeting of the Fellows was called "to consider their duty because of the fever of alarming nature." Rush, Hutchinson, Say, and Wistar were to report on the 26th. Nothing, on the whole, could have been better than the calm good sense of the letter of public advice which the College, at the instance of their committee, addressed to the mayor, Mathew Clarkson, and to the people at large. At this meeting the President describes the fever of 1762. Tilton, our Associate, advises tents as hospitals, and the College decides to meet every Monday. How simple it all sounds, the quiet councils, the talk as to treatment! The Fellows assemble on the 3d, 6th, 10th, and 17th of September, and consider Alexander Hamilton's letter of inquiry as to the fever, and answer Warren, of Boston. Meanwhile the plague is on the people, and the College meets no more until November.

To speak of this awful summer is to speak of a population degraded by the very insanity of fear. The rich fled first, and at last almost all who could go. In round numbers Philadelphia had six thousand houses and forty-nine thousand souls. Some three thousand houses were closed. Twelve thousand persons fled to the country: Carey says seventeen thousand. Of those left behind, eleven thousand took the fever, and one-third of these died. Before this appalling death-rate all but a rare few gave way. In deserted streets, between rows of closed houses, where commerce had ceased, men walked down the middle of the causeways and declined to shake hands with friends, or turned aside from any who wore the badge of mourning. Thousands of both sexes smoked tobacco to avoid disease, or carried vinegar or camphor or bits of tarred rope for protection, while bonfires at night and firing of muskets to disperse contagion ceased only when the mayor forbade them. The churches were shut; most of the weekly papers ceased to appear. For the laborer there was no work. Starvation drove him to crime, and thieves lived riotously in deserted houses. At last family ties were broken, men fled from their dearest, whole families deserted the bed where the father lay dying, nurses were hardly to be had, and still the sombre death-cart went its nightly round with its negro driver, and in answer to the dreary cry, "Fetch out your dead," corpses were lowered from open windows on to the cart, backed up on to the sidewalk, or were carried out in haste to be put across the shaft of what was called a chair, and hurried away for swiftest burial. So lower and lower men sunk, as the plague increased, until at times the dead lay unburied, corpses were found in the streets, and the climax of misery, neglect, and profligate riot was reached at Bush Hill Hospital for the poor. Amidst this horror of disease, of selfishness, of crime, there were men who grew morally stronger through that which enfeebled the mass. The most of the physicians of the blighted town went about their duties untouched by panic, undisturbed by fear. In our own ranks were none who failed. Their names are to be read on every record of those dreary hours. Theirs was what Ruskin speaks of as "that constitutional serenity in danger, which, with the wise, whether soldier or physician, is the basis of the most fortunate action and swiftest decision of deliberate skill." (Preterita, p. 379.) How they differed as to treatment, and how doggedly they held their beliefs, concerns us little. That they did their full duty as honest gentlemen concerns us much.

Hutchinson died, and Morris and many others not in our fellowship. None altogether escaped untouched by the plague, which swept away ten physicians in a month. Says Rush, "At one time but three physicians were able to do duty outside of their own houses. From this cruel summer until 1806, no year left us free from the fever, but the worst of it fell upon us in 1798." Again the College had in vain sounded repeated warnings to the city, the State, and the general government. Again there is that eloquent blank in our minutes from August to November. It was more terrible than '93. Some forty thousand fled, and of those who stayed, about four thousand died, nearly half of those attacked, and again the scenes of '93 were repeated, and again, as in '93 and '97, our ranks were thinned, and only more did not die because nearly all were protected by previous disease.

There were physicians who fled from this more deadly horror, but in the thick of it I find the names of our Fellows. Griffitts's daily record, meant only for his own use, is before me as I write. He says, "My patients are mostly among the poor. While I went to the country to see my sick child, half a day, upward of fifty knocks at my door. Yet through all this I am favored with calmness. My lot seems cast among misery and death. A day of trouble. Buried a beloved servant. Much unwell to-day. Too much to visit. Thus they suffer from unavoidable neglect. I feel indeed alone."

We lost Hugh Hodge and Annan later of the same disease, and through all of these sad years we find always ready, always dutiful, the best of the men whose lives I have sketched. Scarce one escaped the wounds of disease, and at least six died; but none failed us. Surely this is a record to look back upon with that pride which nourisheth good example. We may grieve for suffering, and regret careers cut short, and yet desire to preserve their remembrance;

> "Nor could Humanity resign
> Each hour which bade her heart beat high,
> And blazoned duty's stainless shield,
> And set a star in honor's sky."

The horrors of 1825, with its smallpox, and the cholera of 1832, found the successors of these men as able, as simply ready, as courageous.

Meanwhile the battle as to contagion and importation, and bleeding, and emetics and calomel, raged with a fury of personalities for which it is difficult to account, but which the tenacity and irritability of Rush may in a measure explain. It caused Rush a bitter personal quarrel with Andrew Ross, and disputes between Rush and Kuhn as to the treatment of Hutchinson, and led to the resignation of Rush and the formation of the short-lived Academy of Medicine. These virulent intellectual duels ceased by degrees when the new dispute as to vaccination arose, and, as most of our Fellows favored it, it seems hard to explain their action. In December, 1802, Lettsom sends the College from London vaccine virus, and shortly after is elected an Associate, while, alas! Jenner, proposed by Plunket Glentworth, fails of election,—a sad commentary on the too conservative tendencies which nowadays have somewhat ceased to trouble us. But a little while and the world of opinion was with Jenner. Three or four years later no man would have dared to blackball one of the immortals. The moral is not far to seek, and time has not quite worn it too threadbare for use. In all our history we have little to feel ashamed of, and this reproach comes swiftly after—nay, among—the deeds which showed of what heroic stuff were the men whose portraits hang around our hall.

Our early years produced a few notable essays, but the great and active intellect of Rush was lost to us, and his influence kept out of our fellowship Physick and Mease and some others of note. As I look forward over our minutes up to 1820, the papers are fewer. In some years there is not one. Often there is no quorum, Currie writes, and tells us in a wandering and irritable letter that we are inert and useless, which is hardly true, for still in all public affairs the College is active and attentive. Death, too, has been busy with the men who had smiled in her face so often. Some twenty are gone,—the surgeon-soldiers of 1776, the veterans of '93 and '98. New names appear, though slowly. Sixteen are added before 1807, and of these the yellow fever has taken four. In several years no election of a Fellow occurs, and none from 1807 to 1810. In 1811 we gain the first I personally remember, the honored and well-loved Hewson, some time our President, then Chapman, of joyous and social fame, Neill, Parish, the Bartons, and Edwin Atlee. And now, in 1823, Currie, Parke, and Griffitts, alone, seem to be left of our institutors, but as to some others I can find no note. It is difficult to explain the intellectual inactivity of the College in these years. It was rather paresis than paralysis, inertness than want of power. But why did we survive at all? The Academy had perished; the Philadelphia Medical Lyceum had come and gone; the Philadelphia Medical Society, the Kappa Lambda, the Medical Association of Philadelphia, had been organized, and were soon to die out or had already disappeared.

We were saved, I fancy, by that which preserves the vitality of families,—great traditions which nourish pride, and the conservative power of property: careful treasurers had begun to hoard for us a little money, and our library, if as yet small, was valuable. Moreover, we were still, as always, the public advisers, and the position of adviser is one which flatters. Then came the fortunate accessions from 1824, and we win illustrative

force as we get Hartshorne, Bond, Hodge. Meigs, La Roche, John K. Mitchell, Darrach, and, notably, Wood and Bache, familiar collocation of names, and almost as one in friendship and usefulness; Pennock and Gerhard, Hays, Pancoast, Mütter, Carson, Dunglison, Norris, McClellan. Catalogues of names are valueless, but these are winged with memories. Thenceforward our meetings grow richer in interest, even if at times some lack of activity is still obvious. There is now too much work done for careful analysis here. Twice vain efforts are made to limit the Fellowship. A fee-bill is formed in 1824, and we find only twelve surgical operations enumerated. These multiply in later tables of charges, but one would be puzzled to make such a list to-day. At last we abolish the whole business, and leave men to act in this matter as seems best to them.

We have come now to the time when physicians yet alive and active began to be felt in our affairs. All those I have just named are dead. Let us turn anew to what we have done as a College, work in which all have helped, and which shows best the affectionate interest with which we have all regarded this institution.

We met first in Fifth Street. In 1791 we carried ourselves and our modest library—one case of books—to the Philosophical Society rooms, whence we journeyed to the Mercantile Library building, then on Fifth Street, and in 1854 to the little house on Spruce, within the Hospital grounds. As I first climbed its well-known stairs, in 1856, I remembered the picture, by West, of Christ healing the sick, which in my childhood hung on the wall. The debates used to be sharp in those days. There was Wood in the chair, most courteous of men, gently formal, and of ever-ready kindness to younger physicians; a peace-making presence when the too positive Condie was raging in debate, and Charles Meigs, with his poetic nature and talk of singular freshness, was spurred to sharp reply, and Hodge grew graver and yet more sedate, and Bache sat ready to drop with deliberate slowness of contradiction on the inaccurate. As I write, the visage of Gerhard returns to me, with its grim humor. A man quick of speech and as quick to regret, an unbalanced nature, but a keen and subtile observer. There is stout George Fox, and the slight, delicate figure of La Roche beside our great surgeon Pancoast, sturdy, earnest, and original, a curious physical contrast to his colleague Mütter, small, exquisitely neat in person, and courtly in manner.

You will forgive my gossip. I should like to believe that our juniors have reason to look up to us as we did to these men. A crown seemed as remote to me then as the chair which, by your grace, I now hold.

We owe our present home chiefly to the liberality of George B. Wood, to George Fox, and to the unceasing efforts of Isaac Hays, who, as chairman of our Building Committee, served the College with that high-minded sense of duty which he carried into every relation of life.

In 1856 our building fund, by careful nursing, had grown to sixteen thousand dollars. Our first large accession, like much else that is good, came from Wood. A Western quack had infringed the copyright of the Dispensatory, and the heavy damages awarded were generously given to our building fund. In the same year, by good fortune, Thomas Dent Mütter offered to give us his museum and to leave us an endowment of thirty thousand dollars, on condition that within five years we gave this collection a fire-proof shelter. Gift after gift from Dr. Wood followed,—not less than ten thousand dollars in all,—and in 1863 we moved to our present hall, to which we have but of late added the third story contemplated in the original plan.

The College museum at once grew into importance by the addition of Mütter's gift, and is now one of the most valuable and interesting collections in America.

The library, which owed its first gift and legacy of books to John Morgan, now numbers nearly thirty-eight thousand volumes and some twenty thousand pamphlets, and is second in America only to that which the ample purse of government and the genius of the greatest of medical bibliographers, John S. Billings, have created in Washington.

Its annual growth, some two thousand five hundred volumes, with thousands of pamphlets, is due to the constant supply of new books, and especially of journals, of which we receive at least three hundred and twenty-five. This steady inflow of weekly and monthly publications represents for us the swiftly-changing tides of knowledge, the floods and ebbs of opinion, the never-ending novelties, good or bad,—all to be put on trial. By-and-by the best of this matter, solvent in a hundred journals, crystallizes into more permanent shape in books. This vast accumulation and the multitudinous contributions it represents has, of course, its embarrassments, for not all new facts are valuable or correctly interpreted; but, be they true or not, we must at times have access to them all. Whilst in some very good ways our profession is unyieldingly conservative, as to matters of intellectual opinion and modes of practice it is, nowadays at least, alertly ready to accept the novel and as ready to give up the old.

Books are the best tools of our business, and a great library like ours insensibly educates by tempting men with the noblest of opportunities. It is like an unfailing friend to whom we go for counsel and helpful advice, and a catalogue is its ready memory of all that our greatest knew and taught. Look around that great collection in all tongues.

It is a vast presentation of the thoughts, the beliefs, the victories, the defeats, of that profession which has been, as compared to any other, the purest, the most single-minded, the most simply devoted to its moral creed, the world has seen through all its changeful ages. It has its peerage, its lords of thought, its sturdy, practical commons. Yet here is no set creed of dogmatic beliefs. We make and unmake our rulers, and time, which is more wise than Bacon, has a large vote in the matter; but while systems of medicine crumble, and doctrines have their little day, and men have been intellectually right or wrong, it is pleasant to remember that the lofty code of moral law our Greek Fathers taught has kept through all these productive centuries an invigorating control over the lives these gathered volumes represent. Thus, for him who loves his art, a great medical library is full of lessons in the conduct of life. There, side by side, the feeblest and the strongest meet. What a record of the follies and caprices of learning, of devotion, of martyrdom, of simple usefulness, of ambitious failures! Here are stately tomes unread for ages. Here is some little volume which has changed the great currents of thought and brought hope and relief to a thousand bedsides. In yonder corner is a modest book-case, which groups the bric-à-brac of the bibliographer, the mad jester, the cranks, the queer anecdotists, the priceless incunabula, the medical poems.

I like to think of the book-loving men to whom we owe this collection. Morgan, the scholarly; Hays, editor for fifty-three years of the best medical journal the world has seen; Moreton Stillé, too early dead, with his half-used store of varied learning; Wood, Betton, Mütter; Gross, the great surgeon; Hodge, the famous teacher of obstetrics; Lajus, that gentle and modest scholar, who once said to me, in his odd way, "I like the men who are like books, and that is why I like Samuel Lewis."

I have broken my rule for the first time, to name a living Fellow of the College, the constant benefactor of our library; but in proportion as a man is modest, self-forgetful, prone to avoid public recognition, one is tempted at a time like this to say what we think of him to whom we owe so much. Kindly friend, learned and liberal scholar, we are glad that you are here with us to know, once for all, how lovingly we thank you for the unstinted generosity of these many years.

In that last great war, we most of us so well recall,—in that vast struggle, whose authors we do well to forgive, but whose trials and lessons we do as well never to forget,—this College was true to its traditions.

There are on our list to-day at least one hundred and four men who served their country in the field, in hospitals, or at sea, in those years of sacrificial trial.

Whatever we may have thought or felt of that section of our race which faced us in fight, of this at least I find it a pleasure to feel sure, that wherever men were sick or wounded our ancient guild did well its Christ-like duty. As to that record, North and South, there can be neither doubt nor difference.

I close with satisfied pride these annals of the past and its dead. I see about me men whose books are in every tongue of Europe, whose works are known and honored among the learned of every land, men who wear by just decree of their fellows the unseen crowns of honorable estimate. I see, too, the young in work, the men who are to follow us. To them we shall soon consign this precious heritage, the record of a century of duty; a hundred years without one break in our meetings, save when pestilence thrust upon us a more imperative service. There is that in these years to make them proud of a fellowship which in war and in peace has left us examples of single-minded workers unknown to fame, of the charity without taint of selfishness, of heroic lives lost in battle with disease, of gentle scholars, of daring surgeons whose very fingers seemed to think, of physicians rich with every professional grace. The pride of lineage is valueless which does not secure to the future vitality of usefulness, and I must have told my story ill if to every physician who hears me its illustrations have not the invigorating force of moral tonics.

I turn now from the present and face the silence of futurity. As earnestly as our first President, I pray with him that all those who sit around me, and all who are to come, do publicly and privately serve their generation.

Feeling, like him, the weight and dignity of my office, and to-day more than ever, I look onward thoughtfully to that next centennial time. Every heart that beats in this hall to-day will have ceased to pulsate. Another will stand in my place. Reviewing our works and lives, he will be able, I trust, to say as confidently of us as I have said of your fathers, These too belonged by right of dutiful lives and sincere work to our great, undying brotherhood.

OFFICERS OF THE COLLEGE OF PHYSICIANS.—At the annual meeting, held January 5, the following officers of the College of Physicians of Philadelphia for the year 1887 were elected:

President.—Dr. S. Weir Mitchell.

Vice-President.—Dr. John H. Packard.

Secretary.—Dr. Isaac Norris.

Treasurer.—Dr. Charles Stewart Wurts.

Honorary Librarian.—Dr. James H. Hutchinson.

Recorder.—Dr. J. Ewing Mears.

Censors.—Drs. Lewis Rodman, William Goodell, Alfred Stillé, and Samuel Lewis.

Councillors.—Drs. Morris J. Lewis and James Tyson.

Dr. George E. De Schweinitz was elected for Fellowship.

ORIGINAL COMMUNICATIONS.

TWO CASES OF UNSUSPECTED FRACTURE OF THE SKULL.

BY HARRY FRIEDENWALD, A.B., M.D.,

Assistant Resident Surgeon, City Hospital, Baltimore, Maryland.

PATIENTS with head-injuries present phenomena of every grade of diagnostic probability, from those with such positive symptoms as to lead the surgeon to the exact nature and locality of the cerebral lesions to those with symptoms that are so trivial or misleading as to divert attention from the real injury and cause erroneous diagnosis, as, for instance, that of intoxication in a patient really suffering with serious skull-injury. It is the gravity of the error in these which leads me to report two illustrative cases which were admitted into this hospital during the last year, with the view of calling especial attention to the misleading nature of the symptoms.

Case I.—C. H., a laborer, aged 41 years, was admitted on May 12, 1886, into the hospital. The statement was then made that he had fallen, about an hour before, from a height of seven feet, striking his back over a block of wood. His condition when admitted was good; pulse and temperature were normal; the skin was nowhere broken, and no spots of extravasation of blood were found, excepting some ecchymosis of the right eyelids; the pupils were normal. He complained chiefly of pain in the back and headache, and vomited several times. During the following night he continued to vomit, and also during the next forenoon, and he still complained of headache. The headache decreased gradually under the influence of bromides.

May 15. Patient was out of bed, walking about, and improved.

May 17. He walked about during the day, but his mind wandered; towards evening he grew worse; his gait became tottering; made ropes of his bed-clothes and talked to himself of making fast to some object. Up to this time he had been rational; he had told us how the accident happened, and answered all other questions put to him.

May 18. During the morning he continued his work with the bed-clothes. Later, when spoken to, he would recognize the speaker, but he would soon relapse and mutter to himself.

May 19. Breathing became rapid, obstructed, and difficult; delirium became more marked.

May 20. Breathing very difficult and rapid; frothy mucus in nostrils and mouth. In the forenoon (about 10 A.M.) he walked out of the ward into the street. His tottering gait continued since first noticed. He recognized friends in the afternoon; late in the evening he became unconscious. Respiration steadily grew more labored.

Patient died at 1.30 A.M., May 21.

The post-mortem examination, made by Dr. N. G. Keirle, showed the lungs deeply congested; in the heart was found a very firm "chicken-fat" clot in right auricle and ventricle, extending into pulmonary artery; kidneys slightly enlarged from congestion. But more important and surprising were the results of the examination of the head: here were found extensive fractures, hemorrhage, and inflammation. A piece of the thin upper wall of the right orbit at the outer part was entirely broken loose and separated from the remaining frontal bone; there were no linear fractures connected with this. A linear fracture beginning at the left jugular foramen ran across the occipital fossa and the crest of the occipital bone, through the right occipital fossa and the petrous portion of the right temporal bone (behind the internal ear), and ended at the foramen spinosum. The occipital fossa contained about two ounces of sanious pus. In the right occipital fossa there was a blood-clot about two centimetres by five millimetres. Beneath the dura mater over the right orbit there was another clot three centimetres in diameter.

Certain features of this case make it very interesting. In the first place, the primary cause of death—the fracture of the base of the skull—was not recognized during life. The only symptoms immediately due to the fracture, the headache and the ecchymosis of the eyelids, were so uncertain, in the absence of positive signs, that a diagnosis of fracture would have been a mere guess. The headache and the vomiting were ascribed (perhaps properly?) to cerebral concussion, and the general ecchymosis of both eyelids and of the right eye was regarded as trivial,—a slight bruise possibly caused by striking some projection amid the lumber into which he had fallen. Not the lack of positive signs alone, but his general condition and the symptoms presented, as well as the short distance of the fall, were apparently deserving of so little consideration as still more to divert the view from the real injury and direct it to the slight cerebral concussion and the unimportant bruise of the back. The consecutive intense pulmonary congestion was easily mistaken for a developing (and independent) pneumonia (which disease was very prevalent at the time), and the delirium was ascribed to it.

Case II.—A. C., aged about 30, was brought to the hospital about noon of December 11, 1886, by the police. They had picked him up on the street a few minutes before, believing him to be drunk; but, as he would not answer any questions, they took the precaution to bring him to the hospital for examination. It was found that he walked with staggering gait; that he would not answer any questions put to him; and that he had the odor of whiskey about him. His pulse was weak, and his hands and feet cold, and it was therefore thought best to put him to bed and let him rest and warm up. He remained quiet and undisturbed until the evening. On examination at 6.30 P.M., his pulse was strong and beat 96 per minute; his respirations were 25 per minute, and of the Cheyne-Stokes character; his temperature was found to be 103.7° F. He would constantly repeat a few phrases, and was very restless. When disturbed, he would ward off those offending him by regular and apparently voluntary movements of the arms. He would forcibly close his eyelids when the attempt was made to open them. The pupils were slightly contracted, the right one being the smaller. His reflexes were increased; tickling the soles of his feet would cause violent movements in both legs. There was no anæsthesia or paralysis. When uncovered, he would attempt to bring the cover up to his neck and keep it there. His thighs were kept flexed on the abdomen, the legs flexed on the thighs, the hands held over the scrotum. Upon very close examination of the scalp, a narrow, transverse scar was found on the back, about one and a half inches long, and apparently very superficial, covered with a thin, dry scab. His condition remained stationary during the night.

At 9 A.M. on the following day the pulse and temperature were the same as the previous evening. The left leg and arm appeared rigid. The right leg was unchanged. The respiration partook still of the Cheyne-Stokes type. Opisthotonic contraction came on after he had been disturbed. At 1 P.M. his breathing became stertorous, the pupils began to dilate, the temperature rose to 105°. He died at 5 P.M. the same day.

The treatment consisted in this case in applying an ice-bag to the head, cold sponging, purgation by one drop of croton oil, and hypodermic injection of antipyrine.

The post-mortem examination, made by Dr. Keirle, revealed a diffuse effusion of blood in the subaponeurotic and periosteal tissues in the region under the wound of the scalp mentioned above. A linear fracture was found beginning here,—at the median line, just below the apex of the occipital bone,—running to the left into the lambdoid suture, separating it; then up the squamous suture 2.5 cm.; then, curving downward, through the squamous portion of the temporal bone. It then diverged, one limb continuing downward and going to the temporal end of the zygoma, the other crossing the temporal fossa horizontally for the distance of 4 cm. Extending through the left inferior occipital fossa was another linear fracture, beginning at the main fracture, 2 cm. to the left of median line, and 1.5 cm. below lambdoid suture, and running diagonally downward and outward towards the jugular fossa. There was a blood-clot outside the dura mater, 5 cm. by 8 cm., and 1 cm. deep, resulting from laceration of the posterior meningeal artery. There was also intrameningeal hemorrhage in the left middle fossa, and in both posterior fossæ. The left temporo-sphenoidal lobe near the apex was considerably disintegrated. The lungs were found congested.

From this brief account it will be seen that a very extensive fracture at the base of the skull may present symptoms either so few or so unimportant as to obscure the injury entirely. There was not a symptom present when the patient was first admitted which we do not see daily in intoxicated persons who have been exposed. It is probably true that he had a fall; but then it must not be forgotten that no history of the patient could be obtained. It was evident when the symptoms of active brain-disorder appeared that some serious disease was in progress; but none were present which pointed to fracture.

CITY HOSPITAL, BALTIMORE, December 20, 1886.

A SUGGESTION FOR REDUCING DISLOCATIONS OF THE FINGERS.

BY J. W. MACFARLANE, M.D.,

Demonstrator of Surgery in the Western Pennsylvania Medical College.

WHILE demonstrating to a class on minor surgery the appliances used to reduce dislocations of the fingers, some difficulty was experienced in keeping Levis's instrument in position, even with a wet bandage applied to the part.

Having of late been obliged to wear some of the gum finger-stalls of the shops, to avoid poisoning in a cut, and recognizing how they adhered when once in position, the idea suggested itself that one of these would be an excellent covering for the finger, over which Levis's instrument or a clove-hitch could be secured if desired.

A close-fitting gum finger-stall was then applied, and, upon grasping with the right hand the finger so covered, we found that

we had such a power and perfect control that further appliances were unnecessary,—slipping being out of the question with a finger so covered, especially if the operator's hand is warm.

This simple suggestion may perhaps not have the merit of originality, although I have never come across it before; but it seems to me that much more accurate and judicious traction can be made when the dislocated finger is in the firm grasp of the fingers of the right hand, while the thumb of the right and the whole of the left hand are free to manipulate with, than in the customary method of procedure. Or, if desired, the gum finger-stall can be used as a fixation-point for Levis's instrument or the application of a clove-hitch.

3617 Butler Street, Pittsburg.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

SERVICE OF J. M. DA COSTA, M.D., LL.D.

ACUTE CEREBRO-SPINAL MENINGITIS DUE TO CHRONIC SUPPURATIVE OTITIS.

GENTLEMEN,—I shall first call your attention to some specimens taken from a case which died recently in the Men's Medical Ward, and of which I will give you a brief history.

The patient from whom these specimens were obtained was brought into the hospital in a condition which prevented us from getting from him very accurate information with regard to the history of the case; nevertheless we succeeded in learning, partly from him and partly from his visitors, that he had had an attack of typhoid fever during the past year, from which he made a good recovery; he had obtained employment as a waiter since, and had been well up to the attack for which he was admitted. His recovery from typhoid fever therefore was complete, and he was able to attend to his occupation after it. We have also ascertained, what we did not know at the time, but which I will mention here in giving you the history, that he had had a severe earache, with inflammation of the left ear, which had got well after a discharge of pus from the external meatus, about a year previous to his coming here. Whether this occurred prior to the attack of typhoid fever or afterwards I cannot at present say, though I think it probable that it was before.

Please note that he was well, and attending to his usual occupation, when his last illness began. On the 13th of this month, being, as he thought, in perfect health, he was taken with pain in the head so severe that he was obliged to go to bed. There is no history of an actual chill, and no mention of gastric disorder. His headache persisted, and on the 16th it was noticed that he had lost the power of speech. He had to be helped to the hospital, for he was quite weak, though still able to walk some; his mind was fairly clear; he attempted to speak in reply to our questions, but could not articulate distinctly; he also tried to write, but failed, more from weakness probably than from inability to direct the pen; his headache was still very severe, especially about the left temple and ear, with great restlessness. There was stiffness of the muscles in the upper portion of the neck; the facial muscles were not involved. The tongue was dryish, brown, and slightly coated, protruded with difficulty; no sordes upon his teeth or lips; both pupils were dilated, but responded equally to light; temperature was 102°, the pulse was 86, and the respirations 20 in the minute; the heart and lungs, upon examination, showed nothing abnormal. The stiffness of the muscles at the back of the neck attracted our attention particularly. It was also noted that he had very marked photophobia. No eruption could be perceived on any portion of his body.

Now, gentlemen, subsequent to his admission the temperature-record was sometimes high, sometimes low. The chart shows it at 105.5° at night, and then 100°; on the 19th it was 104°, and on the same evening it was 99.8°; on the 20th it goes up to 102.2°, and then down to 100.4°. In other words, after the first few days of high temperature there are great variations, and then a temperature which does not again go above 102.4°, but remains at about 99° to 101°. The pulse-record also gives evidence of considerable irregularity: in the main, however, the pulse is a slow pulse, notwithstanding the elevated temperature. I find it recorded at 86 and 89, and only once at 100, and in the last ten days it was among the seventies.

There was no vomiting; the headache continued severe; if he complained less during the last few days it was probably because his intelligence became dull, and he had less ability to express his sensa-

tions. The pupils became contracted and sluggish, and he gradually sank into a comatose condition, in which he died. Still, until shortly before death he seemed to be doing well, and the change for the worse was a rapid one. I did not look upon the case as hopeless until twenty-four hours before death occurred.

I will merely say in reference to the treatment that the scalp was leeched with evident advantage. Swedish leeches were applied behind the ear until eight or ten ounces of blood were taken, and the bowels were freely moved by purgatives. Ice was applied to the vertex, and he was given bromide of potassium in large doses. Early in the treatment, in order to relieve his pain he had repeated doses of opium, which afforded him decided relief from his sufferings.

I will now show you the specimens and then discuss them: they are very instructive. It is not often that you will see a case so well marked as this of suppurative meningitis. You perceive that there is over the whole of one side of the brain, the left, also at the base and extending towards the front, a white layer of exudation under the dura mater; the left hemisphere is, in fact, nearly covered with pus, though chiefly on the middle and posterior lobes and between the arachnoid and dura mater. There are evidences also of meningitis spreading from these to the surrounding parts. Upon section the brain itself seems more vascular than usual, but our pathologist, Dr. Longstreth, who has examined it carefully, says that it is not abnormal. It is, therefore, a case in which there is extensive meningitis, especially upon the left side of the brain.

Now, gentlemen, that this was a case of meningitis, with exudation, the inflammation extending down to the spinal cord, is demonstrated by the autopsy. It proved it to be what we suspected during life, a case of cerebro-spinal meningitis: looking upon this term in its pathological sense, the lesions confirm this. But there is another point to which I wish to call your attention. It was important to decide whether or not it was a case of cerebro-spinal meningitis associated with and caused by cerebro-spinal fever,—one of those sporadic cases which linger after an epidemic, of which we had the threatenings last spring. He had, when admitted, all the symptoms of the specific fever except one, that is the eruption. On looking back upon the history of the case, there was one other symptom which I afterwards noticed: it was an absence of extreme hyperæsthesia, which is so marked in the specific fever. Barring these, it had the features of an ordinary case of cerebro-spinal fever. Now, the question comes up, Was it really a case of cerebro-spinal fever? These are the usual lesions which we find. Why do I hesitate to class it with such cases? Is there any other solution which might be offered? Yes; we found one which was afterwards confirmed by the autopsy. There was long-standing disease of the middle and internal ear, the temporal bone was softened and in places broken down, and the inflammation had evidently spread from this diseased bone to the dura mater. We have reason, then, to believe that this typical case of cerebro-spinal meningitis was not an instance of the specific disease, but one in which there was a secondary morbid process due to extension of inflammation from the ear,—an acute disorder the result of a chronic malady. This is not a case of abscess of the brain directly due to diseased bone, which is not uncommon as a sequel of chronic otitis, but it is one of the rarer forms, in which the inflammation travels along the lymph-spaces by continuity of structure and carries the septic infection to the convexity of the hemisphere.

I will call your attention to another interesting point, and one that adds to the difficulty in making up your diagnosis in a case of cerebro-spinal meningitis,—the suddenness of the onset. Occurring as an unusual complication here, it is the rule in cerebro-spinal fever. Yet a case like the one under discussion may arise suddenly and the symptoms set in abruptly. A correct conclusion will then largely depend upon the history. I observe, therefore, that we find cases arising suddenly —like this one in a man in apparently perfect health—which would lead you to suspect cerebro-spinal fever, and yet the whole thing may be primarily due to ear-disorder.

This is an instructive case, and may serve as a warning against accepting the most obvious explanation as the true diagnosis. The suddenness of the appearance of the symptoms is an important point to bear in mind in connection

with the history of previous ear-disease. You may ask, Does my experience furnish a parallel case? Yes, I can recall several. I am reminded of the case of a young married lady who also had had attacks of vertigo, and about a year before had had a discharge of pus from the ear, but which had passed away and was almost forgotten. While in perfect health apparently, she was taken suddenly with violent headache and the usual symptoms of meningitis. She rapidly became comatose and died, and the autopsy showed a similar state of things to that which we have just been discussing: a person in perfect health passing at once into violent meningitis. In our case a diagnosis was not impossible, for during the illness a discharge from the ear took place. I call your attention pointedly to the circumstances of the case, because attacks of meningitis coming on during perfect health are apt to be misleading unless you are aware of their possible connection with latent ear-disease.

There are other points of which I might speak. One is the irregularity of the temperature, and another is the slowness of the pulse. This is especially interesting, because you have here reproduced what is the rule in the specific form occurring in epidemics. Irregularity of temperature and slow and irregular pulse we often find in typical illustrations of cerebro-spinal fever. This brings up for discussion the interesting question, Is not this peculiar temperature and pulse due more to the local inflammation of the brain than to the blood dyscrasia, to which it has been generally attributed?

I have mentioned briefly several points of interest in the treatment: that local depletion by leeches gave some relief; that opium proved its usefulness; and that the pupils became more contracted under its use; but, since you did not see him during life, I will not further extend these remarks. I will, however, in conclusion, answer a question which must be in your minds. I spoke of the absence of eruption, and you wish to ask, Would not the absence of eruption settle the diagnosis between the case of meningitis due to the poison of cerebro-spinal fever and that due to other causes? I answer, Not always: because in some cases occurring in the course of an epidemic, where the specific cerebro-spinal fever is undoubtedly present, the eruption is conspicuously absent.

TRANSLATIONS.

RESEARCHES RESPECTING THE AXIAL NERVOUS CURRENT.—At a recent meeting of the Académie des Sciences, M. Marey read a physiological communication from M. Mendelssohn, who had proved that the electro-motor power of the axial current of a nerve-fragment increases with the length of that fragment, though not proportionally with it. If the trunk of the nerve be gradually shortened, it is seen that the direction of the axial current ceases after a certain limit to conform to the rule which the author had already mentioned, —viz., that the direction of the axial nervous current is always in opposition to the direction or course of the physiological function of the nerve. The electro-motor power of the axial current increases with the area of the transverse section of the nerve. This correlation disappears when two different nerves are compared in the same animal or analogous nerves belonging to animals of different species. The electro-motor force of the axial current decreases with the exhaustion of the nerve which is induced by prolonged tetanization. This exhaustion may even completely destroy the axial current. Desiccation of the nerve, and especially of its sectional surface, rapidly lowers the electro-motor force of the axial current. All these facts show that this current possesses essentially the same physical and physiological properties that M. Dubois-Reymond has described as existing in other nervous currents.

INFLUENCE OF SALTS AND ACIDS UPON FISH.—At a recent meeting of the Paris Biological Society, M. Richet communicated the results of experiments he had made in order to study the influence of different salts and acids upon water containing fish. Salt-water fish were taken for these experiments. The chloride is the most innocuous of all the salts of sodium. The proportion of this salt contained in sea-water is ten grammes to a litre. Sixteen more grammes to a litre would be required to cause death in a fish within forty-eight hours; whereas only five grammes of nitrate or one gramme of bromine would suffice. M. Richet made similar experiments with acids, which rapidly produced fatal results, even in weak solutions.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 8, 1887.

EDITORIAL.

THE COLLEGE OF PHYSICIANS.

THE great medical event of the week has been the celebration of the Centennial Anniversary of the College of Physicians of this city. If any doubt existed as to the social status of the profession in Philadelphia, it surely must have been dispelled in the mind of any one who was present at the delivery of the address by the President at Association Hall,—a dignified and appropriate discourse,—or who witnessed the brilliant assemblage at the College immediately following it. The proceedings at the special meeting of the College were impressive, and the Reminiscences of Professor Stillé very judiciously supplemented those of the President. The graceful words of Professor Da Costa to the newly-elected Associate Fellows must have made them certain of their welcome, but no lingering doubt could remain after participating in the magnificent dinner of the College given in the Assembly hall of the Union League, which appropriately concluded the exercises.

There are few who are aware what an important part the College of Physicians has filled in the medical history of Philadelphia, which was so ably reviewed in Professor Stillé's address. Not the least of its services is that it has consistently labored to elevate professional tone; and in pursuance of this it, in 1843, framed a Code of Ethics which a few years later was substantially adopted by the American Medical Association. In 1848 it encouraged and aided the formation of the Medical Society of the State of Pennsylvania. In 1856 it took an active part in converting the Board of Health of this city from a merely political machine into an organization which has ever since been leavened by a quota of active and intelligent physicians. It has constantly instructed the public upon sanitary questions, and has repeatedly memorialized the Legislature for laws governing the inspection of drugs and medicines, for recording vital statistics, and other matters important to the citizens of Philadelphia. It has established one of the most valuable collections of works on medicine in the country, and given its use (with very slight restrictions) to the whole profession. By the publication of its annual volume of Transactions, it has served to stimulate and excite emulation among other medical societies which have sprung up under its ægis. May it continue its beneficent work for another century, and may those who continue its career remain faithful to its traditions!

PAROXYSMAL HÆMOGLOBINURIA.

THE separation clinically of hæmoglobinuria from conditions resembling it by the discovery of Harley, in 1868, that hæmoglobinæmia was its invariable precedent (the coloring-matter of the blood being merely excreted by the kidneys) has given to this class of cases special medical interest. Paroxysmal hæmoglobinuria, however, is to be distinguished from the toxic form, due to the ingestion of edible fungi (Morchella esculenta), the inhalation of arseniuretted hydrogen, the inunction of pyrogallic acid or naphthol, and certain chemical agents like potassium chlorate, glycerin, and some aniline derivatives, which exercise a destructive action upon the red blood-corpuscle. Severe burns of the surface of the body and the transfusion of alien blood have also been observed to give rise to hæmoglobinuria. The paroxysmal form, therefore, as distinguished

from that which is developed by the direct action of these special causes, may be regarded as a well-defined disease occurring in persons who apparently have some special predisposition to it.

In a communication to the *Nordiskt Medicinskt Arkiv* (B. xviii., No. 22, 1886), Professor R. Bruzelius, of Stockholm, gives the histories of three cases of paroxysmal hæmoglobinuria which had been for a long time under observation, and which were seen at intervals widely separated. These are all which have been reported thus far in Sweden, and in his extended experience the author had not encountered any others. Since only two cases have been published as occurring in Norway, it appears that the disease must be quite rare in these countries. Lichtheim stated that in Germany only two authentic cases had been published previous to the appearance of his treatise on this subject; since then, however, several other cases have been reported, showing that it is not so rare in the latter country as had been believed. Cases have been reported in much larger number in England, and a few have been met with in France and Italy. It appears in both sexes, and there is no restriction as to age: it has been observed at two years of age as well as at seventy.

The first of Dr. Bruzelius's cases was a woman, 27 years of age, who after remaining for a short time in a cold place had a chill, with elevation of temperature, urticaria, slight icterus, and hæmoglobinuria. Microscopic examination of the urine did not reveal any corpuscles, either whole or in fragments; spectroscopic and chemical examination showed the presence of hæmoglobin. The other two cases were men, aged 52 and 71 respectively.

From a consideration of these cases M. Bruzelius concludes that everything tends to prove that it is a disease of the blood, the destruction of the red blood-corpuscles taking place in the organs of the circulation, and not only in the kidneys, as Rosenbach believed. Refrigeration of the body is the most direct and frequent cause, according to Bruzelius, but other observers have also noticed hæmoglobinuria following prolonged muscular exercise and fatigue. Murri and Schumacher regard syphilis as the veritable cause of this disorder; of the three cases referred to only one had chancre, the others declared themselves free from infection.

In America it has been met with in cases of malarial poisoning, and, as pointed out by Dr. F. P. Henry, it is at least interesting to note that the early cases of this peculiar affection were relieved by the use of quinine.

THE MORBID ANATOMY OF EPILEPSY.

INVESTIGATIONS which throw light upon the morbid anatomy of epilepsy always attract special attention. A very interesting pathological study has been recently made by M. Zohrab* of a number of epileptic brains, in all of which necrosed, softened spots existed beneath or around the occipital or posterior horns of the lateral ventricles. Two of the autopsies were upon women who had had essential epilepsy, and two upon men who had presented epileptiform crises in the course of a cerebral lesion. His conclusions were (1) that there are a certain number of cases of epilepsy, either essential or secondary, accompanied by a softening of the region beneath the posterior horns of the lateral ventricles; (2) that in these cases the clonic convulsions are proportionate to the extent of the lesion, and are always more marked on the side of the body opposite to the cerebral hemisphere especially affected; (3) that the pathogenic influence of this lesion is still obscure, but that it is allowable to suppose the existence in this portion of the

* Archives de Neurologie for May, 1886.

white matter of an epileptogenic zone which it will be the office of experience to demonstrate.

NOTES FROM SPECIAL CORRESPONDENTS.

BALTIMORE.

THE profession of this city suffered a severe loss recently in the death of Dr. A. F. Erich, Professor of Gynæcology in the College of Physicians and Surgeons. Dr. Erich was only forty-nine years old, and apparently in perfect health, when he was suddenly seized, on the 6th ultimo, with pronounced symptoms of cerebral hemorrhage, which resulted in his death within twelve hours. He was well known for his improvements of gynæcological instruments and operative procedures. Among the former may be mentioned a self-retaining modification of Sims's speculum, various pessaries, a device for fastening deep perineal sutures, and a constrictor for rendering the cervix uteri bloodless in operations upon this organ. He also modified the operation for rupture of the perineum.

Dr. Erich was a successful and popular practitioner, a forcible teacher, and conscientious in all the relations of life.

A genuine sensation has been caused here by the discovery that the crime of "Burking" had been committed by three negroes, one of whom was an attendant in the dissecting-rooms of the University of Maryland. The corpse of a white woman was brought to the dissecting-room while still warm, and on examination was found to bear marks of violence upon it. Notwithstanding this, the body was prepared for anatomical purposes; but when the demonstrator of anatomy was informed of the suspicious circumstances connected with the reception of the body he notified the authorities, and an investigation resulted in the ghastly discovery that the woman had been murdered for the sake of the money that could be obtained by the sale of the corpse to the college. The police were promptly on the track of the murderers, who are now in jail awaiting trial. Two of them have already confessed their complicity in the foul work, and have implicated the third as an accessary before the fact.

The efforts to obtain some sort of regulation of medical practice in this State, to which reference has several times been made in this correspondence, have again ended in smoke. A committee has for several months past tried to induce the Medical and Chirurgical Faculty of Maryland to assert its ancient rights and privileges of subjecting all those desiring to practise medicine in the State to an examination, in default of a diploma from a respectable medical institution. But, for reasons previously pointed out, the Faculty declined to take any action, beyond submitting the question of its rights and duties to the Attorney-General of the State for an opinion. This official, taking his cue from the dilatoriness of the Faculty itself, declined to express an opinion. This leaves the entire matter *in statu quo*, with the probability that nothing will be accomplished in this direction until the profession takes the business out of the hands of the State Faculty and demands of the Legislature protection for the public against the shameless quacks, both in and out of the profession, who now infest this city and State.

The pathological laboratory of Johns Hopkins University has made a very successful beginning. About twenty physicians are now at work in the laboratory under the direction of Professors Welch and Councilman. Special researches are also being pursued by Dr. W. S. Halstead, of New York, and Dr. W. D. Booker, of this city. Dr. G. M. Sternberg, Surgeon U.S. Army and President and Chairman of the Committee on Disinfectants of the American Public Health Association, is making a thorough investigation into the practical disinfection of the dejections of typhoid fever, and of pure cultures of the typhoid-bacillus. In this work he is assisted by Dr. Meade Bolton, a former student in Koch's laboratory. The results already obtained promise to be of very great practical value.

G. H. R.

PROCEEDINGS OF SOCIETIES.

CENTENNIAL CELEBRATION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE formal celebration of the one hundredth anniversary of the institution of the College of Physicians, organized January 2, 1787, was held during the past week. The first ceremony was a commemorative address (see page 237) by the President of the College, S. Weir Mitchell, M.D., LL.D., which was delivered at Association Hall, at 7.30 P.M., on the 3d instant. It was followed by a reception at the hall of the College, Thirteenth and Locust Streets, which had never before held such a brilliant assemblage.

On the following day a special meeting of the College was held at noon. Professor Alfred Stillé, M.D., LL.D., delivered an address on "Reminiscences of the College," in which the speaker gave an historical sketch of the development and progress of the College and its magnificent library (now containing 38,160 volumes, besides 16,026 pamphlets), which has more than trebled in size in less than twenty years, and in this country is second only to the library of the Surgeon-General's Office in Washington.

The orator concluded his very interesting address in the following words: "In this partial retrospect of the history of the College during the last forty years, one can hardly fail to note that in it, as in political and social, and, indeed, every history, progress has depended upon individuals. The hour must come, and the man must arise who, by his voice or his example, stimulates other men to vigorous and fruitful action. As in its infancy the great name of Rush dominated the College, through his inventive genius and foresight, so in its later history George Bacon Wood ruled it by his wisdom and liberality; another has made illustrious his living name by opening a rich mine of intellectual wealth for all seekers after knowledge; and still another is distinguished for his liberality in promoting the social, artistic, and literary tastes of his fellow-members. All, by their example, have so warmed the enthusiasm and quickened the sympathies of the Fellows, that this commodious building, this precious scientific museum, and this noble library have sprung into existence in the brief space of a single generation.

"Let us hope that so fair a flower of science shall not languish through indifference, neglect, or indirection, and that at the end of another century our posterity shall be able to speak of us with unstinted praise, and with as sincere gratitude as we now feel towards those who prepared the way for this goodly habitation and temple dedicated to the service of humanity."

At the conclusion of the address the President announced the newly-elected Associate Fellows: Henry P. Bowditch, M.D., of Boston, Mass.; John C. Reeve, M.D., of Dayton, Ohio; David W. Cheever, M.D., of Boston, Mass.; Nicholas Senn, M.D., of Milwaukee, Wis.; William H. Draper, M.D., of New York; George C. Shattuck, of Boston, Mass.; R. Palmer Howard, of Montreal, Canada; T. Gaillard Thomas, M.D., of New York; Hunter McGuire, M.D., of Richmond, Va.; James T. Whittaker, M.D., of Cincinnati, Ohio; David W. Yandell, M.D., of Louisville, Ky.

After the ceremony of introduction was over, Professor J M. Da Costa, M.D., LL.D., delivered a brief address of welcome, as follows:

Associate Fellows of the College of Physicians:

Mr. President: Fellows of the College:

To me has been assigned the agreeable duty, on an occasion so interesting, of welcoming, on behalf of the College, eleven masters of our art as Associate Fellows. Our institution has put on its holiday dress to celebrate the day, the one hundredth anniversary of its existence, and one of the most pleasing features of the commemorative gathering is the admission of a number of men of distinction as Associates. In this the College is but carrying out the implied wish of its incorporators. It is calling those to it who have assisted "in the prosecution and advancement of useful knowledge for the benefit of their country and of mankind."

What thoughts would have filled the minds of those worthies who founded this College, could they be with us now! What rejoicing at the success of their literary and scientific undertaking would these old physicians of Philadelphia have indulged in! What pride would they, patriots formed in the stern school of sacrifice and suffering of a long war, have taken in the fact that from so many parts of their country, grown in these hundred years from sparsely-inhabited stretches of land into a teeming, powerful empire,—from cities they were familiar with, but in whose present magnificent proportions they would find themselves wondering strangers,—from wildernesses they scarcely knew of even by name, now thriving, populous States,—had come with a promptitude and rapidity which progress in applied science has alone made possible, those *viri docti et medicinæ periti* they would themselves have delighted in welcoming.

Every age has its impress and its tendencies. The queue, the knee-breeches, the gold-headed cane, the stately manner, the reverence for old wisdom, the classical canon, were their emblems, and bespoke that which they declared to be one of the objects of this College,—"to cultivate order and uniformity in the practice of physic." Though not blind to your other qualities, it would have been for any near approach to their standard of order and learning that they would have mainly esteemed you.

Our age is an age of zealous investigation and active change. Newly-elected Associate Fellows, we find represented in your ranks what in these days we chiefly honor in our many-sided profession. We find learning and order, but we also find love of research, originality, boldness; we note you quick of eye, fertile of resource, independent of thought. And if we have singled you out on this occasion, it is because you are the type we delight in, the true children of our time and tendencies.

How will it be when another hundred years have passed? Will the best traits that have made our investigators eminent go to form the cast of a medical mind reaching out into now unseen worlds of science, and looking, with eyes keen with suggestive research, at every line on every page that age has seasoned? Or will all knowledge be so plain and elementary that its application alone will be cared for, and investigation be regarded as nearly complete? It is not likely. The stone thrown into the water gives rise to ever-increasing rings; and so must it be with pursuits in Nature. There is still a greater world beyond the microscope and the telescope than we know with it.

Associates, in joining you to us to-day, we

bestow on you all this College has to bestow. It gives you full share in all that a century of learning, of culture, of pure aims, of renown, of high tone, most zealously guarded, has done to make it famed and respected. On its part, it takes a mortgage on your past acquisitions, as well as lays claim to a portion of the results of your future work: and when some fresh, thoughtful deduction in practical medicine becomes the theme of every pen; some new, life-saving operation is everywhere discussed; some clear monograph of exhaustive research and wide grasp is by every one lauded; some ingenious application of physiological experimentation is laid before the world; when we hear of a celebrated treatise of a great practical master being translated into yet more tongues,—we shall feel the pride of possession in our Associate Fellow, and, rejoicing in his success, claim him for the College as among our own. These are the feelings we have towards you, and we now greet and welcome you as sons of this old Institution with all the love of brotherly affection.

At the close of the exercises luncheon was served.

The concluding feature of the celebration was a dinner of one hundred and thirty covers at the Union League on the evening of January 5, at which the following distinguished visitors were present: George C. Shattuck, M.D., of Boston; T. Gaillard Thomas, M.D., of New York; Hunter McGuire, M.D., of Richmond; R. Palmer Howard, M.D., of Montreal; William H. Draper, M.D., of New York; Fordyce Barker, M.D., of New York; A. M. Pollock, M.D., of Pittsburg; Traill Green, M.D., of Easton, Pennsylvania; J. S. Billings, M.D., U.S.A., of Washington, D.C.; Henry P. Bowditch, M.D., of Boston; J. T. Whittaker, M.D., of Cincinnati, Ohio; J. C. Cameron, M.D., of Montreal; George B. Shattuck, M.D., of Boston; Nicholas Senn, M.D., of Milwaukee, Wisconsin; R. S. Ives, M.D., of New Haven; James T. Chadwick, M.D., of Boston; David W. Cheever, M.D., of Boston; E. Darwin Hudson, M.D., of New York; B. A. Watson, M.D., of Jersey City; W. W. Phillips, M.D., of Trenton, and others.

The ceremony of passing the Loving Cup was then observed with due solemnity.

While the Loving Cup was making its round the President announced the following toast: "The Founders of the College," which was drunk standing and in silence.

Dr. Henry Hartshorne delivered a brief address in verse. Professor D. Hayes Agnew was called upon to respond to the toast, "Our Fellows;" Professor T. Gaillard Thomas responded in brilliant style to the toast of "Our Associate Fellows;" Professor William Pepper, Provost of the University, Professor John Ashhurst, Jr., and Professor Theophilus Parvin respectively replied in appropriate remarks to the sentiments of "The Physician," "The Surgeon," and "The Obstetrician;" Dr. John S. Billings, U.S.A., responded to the toast to "The Medical Societies of America."

Dr. S. Weir Mitchell concluded the exercises by reading a Commemorative Ode, entitled "The Doctor's Century," which concluded as follows:

"Perchance as ghosts consultant we
May stand beside some fleshly Fellow,
And marvel what on earth he means,
When this new century's old and mellow.

"Take, then, the thought—that wisdom fades,
That knowledge dies of newer truth,
That only duty simply done
Walks always with the step of youth.

"A grander morning floods our skies
With higher aims and larger light:
Give welcome to the century new,
And to the past a glad good-night!"

A loan collection of portraits was added to those already owned by the College of former Presidents and Fellows and distinguished members of the profession, and was placed on view on Wednesday and Thursday, January 5 and 6.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, DECEMBER 2, 1886.

E. E. MONTGOMERY, M.D., Vice-President, in the chair.

FIBROID TUMOR OF THE BROAD LIGAMENT.

DR. W. CONSTANTINE GOODELL exhibited for Dr. W. Goodell the right broad ligament containing an enlarged ovary, and close by its side, but distinct from it, a fibroid tumor of the shape and size of the non-gravid womb. The left ovary was also greatly enlarged. It contained a cyst which burst into the cavity of the abdomen. Since the operation she had greatly improved.

He also exhibited for Dr. W. Goodell an

INTRA-LIGAMENTOUS OVARIAN CYST,

with the following history. The girl, aged 18, had been growing large for two years, and her health also began to fail; but a tumor was not suspected until six months ago, when she was examined by Dr. George H. Woods, of Pine Grove Mills, Pennsylvania. Discovering a cyst, he sent her to Dr. W. Goodell. The operation was performed on September 25, at his private hospital, and was a difficult one, because most of the cyst lay between the folds of the right broad ligament, and the rest of it was adherent at every point to intestines and abdominal wall. It was enucleated so completely that no pedicle was left to tie. He exhibited it mainly to show the greatly hypertrophied and dilated oviduct, the walls of which were very thick and were filled with pus. The left ovary, being of the size of a goose's egg, was also removed. It contained pus, and also was enveloped in the

broad ligament, and had to be shelled out. In spite of the complications, this case recovered promptly.

Dr. W. Goodell had had during the past year another case of intra-ligamentous cyst of the most formidable character. The cyst was attached to nearly the whole of the colon, to the small intestines, to the bladder, and to the whole surface of the womb, measuring five inches in length. The lower portion lay between two layers of the broad ligament, from which it was shelled out without a pedicle. The parts were so disorganized that the second ovary could not be found, nor was it possible to determine positively which ovary was removed. But the presumption is that it was the right, because nearly the whole of the right ureter, fully ten inches of it, had to be carefully dissected off from the cyst-wall and from between the layers of the broad ligament. Many ligatures were used, and very little blood was lost; but the patient died on the table from shock while the wound was being closed. Before this death, Dr. W. Goodell had had twenty-two successive ovariotomies, all of which recovered, and he has had eight successful cases since, making in all thirty cases with but a single death.

Dr. JOHN M. TAYLOR, upon invitation from the chair, remarked that the first case reported by Dr. Goodell had been originally under his care. He had attended her in labor, and nothing abnormal occurred in the puerperal period. He had examined her six weeks later, as is his custom, and found nothing wrong. Some months afterwards she had a miscarriage; there was some placental retention, and it was followed by ovarian tenderness and signs of inflammation, which gradually increased; the ovaries became enlarged. Nine months after the miscarriage the operation was performed. An interesting question is, When did the tumor begin?

Dr. MONTGOMERY remarked that there was a resemblance between the tumor and one horn of a uterus bicornus. Was there a distinct separation between the uterus and the tumor, or could it have been such a horn?

Dr. W. C. GOODELL stated that the tumor was separated from the uterus by an inch. The tumor has greatly diminished in size since it was placed in alcohol.

Dr. HOWARD A. KELLY exhibited a

PAROVARIAN CYST

weighing thirty-seven pounds. The patient, a young woman, nulliparous, had noticed the tumor one year before. The character of the percussion-wave and the evenness of the belly-wall decided a correct diagnosis. A point of interest was the flatness of the anterior abdominal wall, with more fulness in the flanks than the speaker had ever before observed in a cystic tumor. The tumor was removed through a two-and-a-half-inch incision. The fluid was viscid and yellowish. There were no adhesions. The broad pedicle was transfixed and tied, and over this a tie made embracing the whole. The wound was closed by silkworm-gut sutures, five to the inch, and the whole operation completed in thirty-six minutes.

It is two weeks to-day since the operation. The patient is sitting up in a rocking-chair. She has no fever at all, a pulse daily growing slower, and feels well. The cyst was one large cavity, containing several cauliflower vegetations on its inner wall. The ovary lay intact on its outer wall, and the tube, about ten inches in length, was drawn out over it.

REMOVAL OF OVARIES AND TUBES FOR SUB-INVOLUTION AND CHRONIC METRITIS.

Dr. KELLY considers the indications in this case so well defined and new that he designs making it the subject of a more detailed critical communication. The patient, about 35 years of age, had raised five children, but for several years had suffered from constant soreness of the whole hypogastrium, a spot of intense burning pain to the left of the uterus, and a constant dark leucorrhœa. The menstrual congestions greatly increased her symptoms, which were again aggravated by several early abortions. She had been under excellent treatment before coming to Dr. Kelly, and had been carefully treated by him, but with only moderate, temporary improvement. Dr. Kelly then decided to stop the menstrual function, with a view to checking the periodical determination of blood to the uterus, and finally bringing about complete involution of the organ. The operation was performed on the same day as that before described. The ovaries and tubes were removed through an incision two inches long. The ovaries were full of pea-sized follicles, and were covered with a dense capsule, and were probably (not, however, in consequence of these appearances) diseased. The speaker insisted that the operation here had no reference whatever to any disease which might be found in the appendages, but the sole indication lay in the state of the uterus; the ovaries, whether diseased or not, were removed to correct that trouble. The recovery was as perfect and free from disturbance as any slight injury, and the patient was up in the next room on the fourteenth day, when the uterus was free from tenderness and already rapidly undergoing involution.

Dr. HARRIS considered the parovarian cyst interesting on account of the character of the fluid, which was opaque and quite as thick as is usually found in ovarian cysts.

Dr. CHARLES MEIGS WILSON considered oöphorectomy a resort of doubtful propriety as a remedy for metritis; for, as the menopause occurring physiologically would not stop such an inflammation, we would scarcely expect it to be of greater benefit when the

result of an operation. He doubts the moral right of exposing the patient to the risks of abdominal section for such a condition.

Dr. KELLY remarked that one reason for the operation for the relief of metritis was the exacerbation of all the symptoms at the menstrual period. Maternity could not again be accomplished, in consequence of abortion; complete rest in bed had failed to stop them. He thinks these ovaries are diseased; ovaralgia has undoubtedly some anatomical basis, but he is not able to say how it is to be discovered; more microscopical research is needed. The history of this case excluded syphilis.

Dr. JOSEPH PRICE read a

REPORT OF THIRTY-ONE CASES OF INTRA-ABDOMINAL OPERATIONS

done without any selection, in private hospital, communicated by Dr. Stansbury Sutton, of Pittsburg, Pennsylvania.

October 27, 1883. Mrs. B. Ovariotomy, large cyst; recovered.

November 18, 1883. Mrs. O. Ovariotomy, large cyst; recovered.

December 28, 1883. Mrs. C. Ovariotomy, large cysts, extensive adhesions, tapped frequently; recovered.

February 2, 1884. Miss T. Supra-vaginal amputation of uterus with both ovaries and tubes; recovered.

February 20, 1884. Miss P. Supra-vaginal amputation of uterus with both ovaries and tubes, large fibroids of uterus; recovered.

March 20, 1884. Mrs. K. Ovariotomy, left ovary large and cystic, developed under the broad ligament and roofed over by it. The ligament was opened up to get at it. On right side a fibro-cyst of the uterus with adhesions existed. Performed supra-vaginal amputation of the uterus with the remaining ovary and tube and split the broad ligament of the left side. Recovered.

April 22, 1884. Mrs. S. Ovariotomy, large cysts, extensive adhesions, especially to the liver; had been often tapped. Liver was burned with cautery-iron over strip one inch broad by four or five inches long to stop bleeding. Incision in abdominal wall seventeen inches long. Recovered.

May 12, 1884. Mrs. D. Large sarcoma of left ovary; general chronic peritonitis with ascites; tumor fed by enormous vessels. Pedicle tied and dropped as in ovariotomy. Pulmonary clot occurred on fourth day suddenly, with temperature 99°. Died.

May 29, 1884. Mrs. G. Ovariotomy, large cyst, adhesions. Recovered.

June 24, 1884. Mrs. S. Pelvic abscess. Tait's operation (the pus was stinking). Recovered.

July 12, 1884. Miss M. Removal of subperitoneal fibroid, anterior wall. Pedicle short. Recovered.

July 12, 1884. Miss L. Supra-vaginal amputation of uterus with sixteen-pound fibroid, extensive enucleation, adhesions numerous. Died.

September 16, 1884. Mrs. R. (insane). Removed both ovaries and tubes. Cured. Recovered.

September 22, 1884. Miss J. Both ovaries and tubes removed. Died of septicæmia on fifteenth day. (Consultants pronounced it typhoid fever.)

September 24, 1884. Mrs. W. Supra-vaginal amputation of uterus and both ovaries, with fifteen-pound fibroid; extensive enucleation, vast adhesions. Tetanus. Died.

December 4, 1884. Mrs. C. Supra-vaginal amputation of uterus for large fibroid; extensive intestinal and mesenteric adhesions, and in the presence of peritonitis; very bloody operation. Shock was too great. Died.

December 17, 1884. Resection of small intestines at two points for cure of artificial anus and extensive adhesions of gut. Fatal on seventh day from renal hemorrhage. Five stones, one an inch long, were found in the kidneys post mortem. The points of resection were found with difficulty. The sutures were all covered. (My first and only other resection of intestine recovered, and is living three and a half years since operation.)

March 7, 1885. Mrs. J. Ovariotomy, large cysts; extensive adhesions; had often been tapped. Recovered.

April 7, 1885. Miss S. Exploratory incision. Recovered.

June 10, 1885. Mrs. S. Double ovariotomy. Dermoid on right side. Recovered.

June 27, 1885. Miss H. Both ovaries and tubes removed. Recovered.

July 30, 1885. Miss D. Ovariotomy, large cysts, extensive adhesions; came in in a dying condition; had been tapped very often. Died.

November 18, 1885. Mrs. B. Ovariotomy, incomplete small cyst, size of cocoanut. As it was impossible to remove the cyst on account of adhesions, it was emptied, dried out, and lining well mopped with a five-per-cent. carbolic. Recovered, and cyst has not refilled.

November 19, 1885. Mrs. M. Oöphorectomy, right ovary and tube. Recovered.

November 24, 1885. Mrs. W. Double ovariotomy, large cysts, bad adhesions; patient very anæmic and feeble; had been tapped often. Recovered from operation, but died of perinephritic abscess three months afterwards.

January 9, 1886. Miss N. G. Oöphorectomy, pyosalpinx. Recovered.

March 23, 1886. Mrs. R. Oöphorectomy, right ovary and tube. Recovered.

April 3, 1886. Mrs. N. Oöphorectomy, both ovaries and tubes; kidneys contracted. Uræmic poisoning a week after operation. Coma. Death.

October 1, 1886. Miss S. Oöphorectomy, right ovary and tube; chronic ovaritis and

salpingitis. Had to dig the ovary and tube out of a mass of adhesions; bad case. Recovered.

November 20, 1886. Mrs. N. Double ovariotomy; removed large parovarian cyst and cystic ovary on left side, and cystic ovary on right side. Recovered.

This list of thirty-one abdominal sections are all I have made in my private hospital during the three years of its existence. I have never used spray over a wound, and only occasionally in my earlier cases I used two-and-a-half-per-cent. carbolic solution over the instrument. Long ago I quit this, and have used no chemical during the operation. After closing the wound, I am in the habit of dressing it with iodoform-gauze. Our wounds all heal by first intention. A great many of these patients had neither health, strength, nor money when they came to us. Rich or poor, all have had the same chance for life. All the provisions of cleanliness known to science and art are practised in my institution. With our present good condition, I believe we can save ninety-eight per cent. of ovariotomies sent within a year or eighteen months from the time the disease begins, and without having been tapped. We never lose a case if in fair condition, and if no trocar has been previously introduced into the cyst.

In this list there were thirteen ovariotomies for large cysts, and in one case a supra-vaginal hysterectomy was also done. Of these thirteen cases, two died: one of the two three months after operation, and the other was in the last stages of exhaustion when she was brought in on a stretcher.

Of the cases of supra-vaginal amputation of the uterus and both ovaries there were six; in one an ovariotomy was also done for large cysts. Of these cases, three recovered and three died.

The Tait operation for large pelvic abscess recovered.

The intestinal resection was not lost through the operation. The removal of the uterine appendages shows a mortality of two cases; one was due to operation, I think, the other was not.

I am sure that, as we gain experience in further operative work and exercise more care in rejecting cases with bad kidneys, our results here will compare favorably with others. Thus far we have refused no patient willing to enter the list for operation, and I am sure that no operator, East or West, is likely to meet with worse cases than are contained in this list.

Summary.—Ovariotomies, McDowell operations, 13; oöphorectomies, Hegar-Tait operations, 8; laparotomy for pelvic abscess, Tait operation, 1; resection of intestine, 1; removal of large solid sarcoma of ovary, 1; supra-vaginal amputation of uterus and both ovaries, 6; exploratory incision, 1; removal of subperitoneal fibroid of uterus, 1. (One case is counted twice: first as an ovariotomy for large cysts complicated with supra-vaginal amputation for fibro-cyst of uterus; secondly, as a supra-vaginal amputation of uterus complicated by ovariotomy.)

In looking over my ovariotomy cases which have recovered during the last ten years, I find that eight children have been born to them. My last laparotomy (forty-sixth) for all diseases yet attacked by operation by me was a large parovarian cyst with both ovaries cystic. The cyst and both ovaries were removed through a two-inch incision, the dressing completed, and the woman in bed in thirty minutes, without any haste. She has taken no drugs, not a drop of anything. Temperature on the fourth day was normal, and pulse 76. Wound completely healed. Experience, with honest precautions, coupled to a possibility of earlier operations and a discontinuance of tapping, will result in as good statistics in this country as abroad.

Dr. H. A. KELLY remarked that Dr. Sutton's account of his cases is very interesting, and in many particulars instructive, and better results for general work, handling all classes of cases without selection, certainly cannot be found in our country. He, Dr. Kelly, called especial attention to the note by Dr. Sutton that his ovariotomy patients have borne eight babies within the past ten years. This fact is significant as deciding a question which has been discussed in terms of vague generalization and sentimentality: "The other ovary."

About a year ago, when writing a paper upon ovarian cysts of large size, Dr. Kelly found facts in Sir Spencer Wells's table which determined this question for him upon a solid scientific basis. Of Sir Spencer Wells's 1000 cases, 768 recovered; and, deducting from these 343 over forty years of age as beyond the child-bearing period, we have left 371; again deducting 20 more, which was about the number of double ovariotomies under forty years recovered, we have left about 351 women survivors with one ovary and in a child-bearing condition. As an actual fact, 117, or about one-third, did bear children, to number 228, or a fertility of about 65 per cent. to the total number of survivors. This is then clearly the advantage of leaving one ovary in 351 women: to wit, 228 children. Now, what are the disadvantages? Obviously a return of the tumor in the other ovary and death from the second operation.

In 7 of these 351 women a second operation was necessary, and one of the seven died of a tumor doubtfully uterine.

Here, then, is the status of "the one ovary" case: *one doubtful death* of a woman seven years after her first operation against *two hundred and twenty-eight children born!*

Dr. Kelly could not accept the diagnosis of death from typhoid fever in a surgical case within three weeks of operation in the

absence of careful post-mortem examination. The typhoid condition is so common in all cases of peritonitis tending to a lethal end, and true typhoid fever so extraordinarily rare, that he rejected the diagnosis not subsequently confirmed. It savors too much of the many cases of women coming to his office week after week, stating that they "have never been well since their last confinement, when they had typhoid fever." Dr. Sutton, however, does not himself make this assertion.

Dr. COFFEE, of Pittsburg, drew attention to a case under his own observation in which typhoid fever of distinct character followed close upon a surgical operation.

Dr. M. PRICE spoke of a case in which typhoid fever followed immediately after an attack of smallpox.

Dr. JOSEPH PRICE reported a case of

HYSTERECTOMY FOR MYOMA.

The patient had applied to Dr. J. R. Haynes on account of menorrhagia with hypogastric discomfort. Uterus about the size of a three months' gravid uterus. She became very much prostrated, and suffered from sciatica in the right leg. The tumor grew rapidly, and seven months after first seeing her the tumor was found to extend from the umbilicus to the perineum, resembling in shape and position the gravid uterus at seven months. Two inches below the umbilicus and to the left a bruit was distinctly heard. Fœtal heart-sounds could apparently be distinctly heard beating 125 per minute, but they were synchronous with the patient's pulse. The lower portion of the tumor extended into the vagina almost to the perineum, and resembled very much a fœtal head surrounded by a small quantity of fluid. The os uteri could be felt only with the utmost difficulty behind the centre of the os pubis.

November 19, Dr. J. Price performed abdominal section. Before operation her pulse was 150, and temperature 100°. Six syringefuls of brandy were given hypodermically. The operation lasted about an hour. The patient slept well that night and improved in condition for a few hours, after which vomiting occurred, followed by great restlessness, pain, and increased frequency of pulse. Peritonitis developed, and the patient died at 7 A.M., about thirty-one hours after the operation. Post-mortem examination showed nearly a pint of bloody serum in the peritoneal cavity.

Dr. Price remarked that, in reviewing the operation, he felt that, with one exception, he had nothing to regret; but he did regret that he had not introduced a drainage-tube. His reason for not using it was the complete absence of bloody stain in the last abdominal washings; but it is his rule to use a drain whenever there have been adhesions to separate; he had three tubes in use in other patients at that very time; he feels assured that if he had used a drainage-tube in this case the woman would have recovered.

Dr. H. A. KELLY considered the important error in this case was the neglect to insert a drainage-tube, and gladly made this subject the text of a few remarks. Operators at large should by this time have reached a common understanding as to just how and when the drainage-tube should be used. In the *first* place, whenever there is any denuded area as large as the palm of the hand, or smaller, if there be a tendency to weep, a tube should be introduced, and sometimes, when least expected, several ounces of serum will well up through the tube daily, and the absorptive powers be saved a severe tax. *Secondly, whenever in doubt, use the tube;* no harm ever comes from it when guarded with the antiseptic precautions now in common use.

His own plan is as follows. Pass all the silk sutures as if the whole length of the incision were about to be closed; slip in the drainage-tube (he prefers a straight glass one under ordinary circumstances), and run down the shot and close the wound to the tube; but the two sutures passing through the track of the tube are left long, to be used after removal of the tube. He then once or twice a day draws out all serum accumulated in the pelvis, by means of a long-nozzled uterine syringe; when all discharge has ceased, provided it has been but sweet, clean serum, he withdraws the tube, and, running the shot down on the two unused sutures, closes the wound perfectly, leaving only a linear cicatrix, instead of a deep pit, at the lower angle, to be filled up by granulation and a large plug of scar-tissue: this is also safe after suppuration, provided all suppuration has entirely ceased.

He does not like Koeberlé's clamp, which had been used by Dr. Price in this case, and considers it far more dangerous in every way than the elastic ligature. Sänger's device, just announced, combining an extra- and intra-peritoneal treatment, promises much, and is certainly destined to repeated trial.

Dr. MONTGOMERY thought the case one of extreme interest in point of diagnosis and treatment. The pressure of the tumor on the ureters causes changes in them, and also sacculation of the kidneys. He had operated in a similar case some years ago, and a subsequent examination revealed sacculated kidneys and pus in one: even if no knife had been used, the patient would have died from the ether. He thinks, with Dr. Price, that the drainage-tube should have been used in his case.

Dr. JOSEPH PRICE remarked that he had no fear whatever of the drainage-tube, and thought it might be used in every case. Tait's rule, "When in doubt, use the tube," was a good one. Dr. Price made some remarks upon his method of using drainage-tubes of glass, employing cotton wick in some cases to

remove accumulations of serum and to clear the openings of the tubes, using a sucking bulb with gum tubing to draw out fluid accumulations, and introducing a smaller gum tube through the glass one before withdrawing the latter.

Dr. M. PRICE exhibited specimens from a case of

PYOSALPINX

of gonorrhœal origin. Is pyosalpinx not almost always the result of gonorrhœa? His cases have without exception followed attacks of gonorrhœa. Can such a sequel be anticipated and prevented?

Dr. MONTGOMERY remarked that Dr. Noeggerath initiated the idea of latent gonorrhœa as the cause of salpingitis and pelvic peritonitis.

Dr. M. PRICE remarked that his patients had been in robust health; they were generally women who had borne but one child, and the labor had been followed by repeated attacks of peritonitis.

Dr. LONGAKER read a report of a case of

LAPAROTOMY FOR PYOSALPINGITIS.

Maggie T., aged 33, was admitted to Lying-in Charity Hospital November 13, 1886. She had one child eighteen years before, after a difficult and prolonged labor. Unmarried, and has a history of specific disease. During the last four years her periods had been accompanied by intense suffering, and in the intervals she was never free from distressing aches in the pelvis. Lately she had used opium to some extent. In addition to the evident enlargement of the appendages on both sides, the patient has a perineo-recto-vaginal fistula and a stricture of the lower end of the rectum. A diagnosis of pelvic cellulitis was made by him in this case two years ago.

Operation.—November 18. The left tube, a sausage-shaped tumor, and the ovary, a fluctuating mass the size of a walnut, were easily removed: a small amount of pus escaped from the end after ligation, but this was arrested by pressure-forceps. The ligature was necessarily passed near the uterus, but, owing to friability of tissues, troublesome oozing continued and delayed the closure of the abdomen. On the right side the ovary and tube formed a huge abscess the size of a goose-egg. It was impossible to separate and remove this without rupture. It was filled with pus and altered blood. Adhesions were dense and firm. There was also some oozing on this side, but it gave rise to comparatively little trouble. The peritoneal cavity was irrigated with hot water; one to five thousand bichloride solution in sponges; abdominal walls sutured with silk, over which was placed an impervious coat of iodoform collodion. Convalescence uneventful. She is now free from pain.

Dr. M. PRICE inquired about the source of hemorrhage. He had seen serious hemorrhages due to the fact that the tube was cut by the ligature. He thought it important to tie straight across the tube, and not obliquely. He ligates by double ligature and ties back. He considers it right to open up at once if hemorrhage is at all free; he does not think it right to trust to sponges and hot water.

Dr. JOSEPH PRICE had seen very free hemorrhage from adhesions to the bowels, large sinuses being laid open and pouring out blood. In several cases he had used iron as a styptic.

Dr. LONGAKER explained that the hemorrhage came from the opening up of the broad ligaments.

Dr. H. A. KELLY read a paper embracing

NOTES ON PALPATION OF THE FEMALE URETERS,

which will be published in full with diagrams.

Dr. JOSEPH PRICE read an interesting letter from Dr. Joseph Eastman, summarizing the features of McDowell's early operations, showing how perfectly antiseptic his work was.

Dr. COFFEE spoke of Dr. Sutton's work as being pioneer work. He gave up good practice and went to Europe to work up this field.

W. H. H. GITHENS,
Secretary.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held December 2, 1886, the President, A. JACOBI, M.D., in the chair.

PARENCHYMATOUS INJECTIONS OF CARBOLIZED IODINE INTO A PHTHISICAL LUNG.

Dr. J. BLAKE WHITE presented a phthisical lung, the patient having died six weeks after the last of three injections of a solution of carbolized iodine into a large cavity. The patient was an inmate of Charity Hospital, and had advanced phthisis, with emaciation, loss of strength, irritating cough, expectoration, night-sweats, etc. In July last Dr. White had made the first injection of ten minims of a solution of carbolized iodine, with a little morphine and atropia, through the first intercostal space on the left side, where there were the physical signs of a pulmonary cavity. The second injection was made about a week later, and the third and last one, consisting of twenty-five minims of the solution, a few days later. At this time Dr. White's term of service expired and the treatment was discontinued. The result of the treatment was a temporary improvement in all the symptoms, and no reaction followed: the cough was controlled, the expectoration lessened, the night-sweats checked, the appetite improved, suppuration in the cavity antagonized, and cicatrization promoted. The lung was shown in verification of the latter of these state-

ments. Intra-pulmonary medication in consumption seemed to the reporter a very rational treatment, and experience thus far had demonstrated that it was.

LARYNGEAL DIPHTHERIA—INTUBATION AND PATHOLOGICAL ANATOMY.

Dr. W. P. NORTHRUP read a paper on this subject. He first spoke of the efforts of Bouchut, of Paris, to introduce a method of intubation of the larynx in 1858, and the disfavor with which it was received by Trousseau and the profession in that country in general. Bouchut's work was unknown to Dr. O'Dwyer, of New York, when that gentleman some years ago was led, by an unusually high mortality after tracheotomy in the New York Foundling Asylum, to try intubation of the larynx, beginning his experiments on the cadaver. The result of his efforts had been highly successful, and to a consideration of his method and the pathological findings in eighty-seven cases of death from laryngeal diphtheria in the above-named institution Dr. Northrup's paper was devoted.

The records given consisted of all the cases of death during the past five years in the New York Foundling Asylum from laryngeal diphtheria. The whole number of children under the care of the institution during that time was eighteen hundred, eleven hundred being taken charge of by the nurses within and immediately about the institution. The entire number of deaths from laryngeal diphtheria had been eighty-seven: the number of males being thirty-seven, of females fifty. The average age of the patients was two years and seven months. The greatest number of deaths took place between the third and fourth years.

Fifty-six of the eighty-seven cases began with symptoms indicating that the membrane made its appearance in the larynx either before or simultaneously with its appearance in the pharynx; in thirty-one cases the average number of days before the commencement of symptoms of croup was two and a quarter; in fifty-four cases the average time from the beginning of croupy symptoms until death was three and four-fifths days. Of the eighty-seven cases the number accompanying or following measles was twenty-two; scarlet fever, eight; varicella and scarlet fever, one; in fifty-four cases there was pneumonia. In most of the cases where the lesions were not plainly declared a diagnosis had been made based on microscopic and post-mortem examination. The question of pulmonary collapse and pneumonia had been constantly in mind, and signs of parenchymatous inflammation or pneumonitis had been present, as a rule. It would fail of the truth to call the condition of the lung a bronchitis; it would fail still further of the truth to call it collapse; the lesion was broncho-pneumonia. In considering the cause of death when there was such a complication of lesions,—sepsis, bronchitis, pneumonia, and nephritis,—there was little satisfaction in attributing it to any one of them separately. Twenty-seven of the eighty-seven patients were believed to have died from extension of the diphtheria into the bronchi; twenty-nine had sufficient pneumonia to account easily for the death.

The highest temperature in nineteen cases was 104°; in fifteen it was 105°; in three, 106°; in two, 103°; and in one, 107°.

The distribution of the membrane was as follows: in nine cases it extended from the tip of the nose to the finest bronchi; in six cases, from the nose to the bifurcation of the trachea; in seventeen, from the pharynx to the finest bronchi; in seventeen, from the larynx to the finest bronchi; in seventeen, from the pharynx to the main bronchi; in seventeen, in the larynx and trachea; in three, in the pharynx and larynx; in one, in the larynx only.

Interstitial emphysema was found in eight cases, pronounced vesicular distention in nine. The interstitial emphysema was located principally in the anterior portion of the upper lobes and roots; the vesicular, mainly in the anterior portion of the upper lobe. It might be remarked that interstitial emphysema had been met with quite as often in marasmus as in any other condition, except whooping-cough.

The instruments used by Dr. O'Dwyer for intubation of the larynx consist of the larynx-tubes, the introducer, the mouth-gag, the extractor, and the scale to indicate the size to be used according to the age of the patient. Instructions for their use accompany the set of instruments, which were manufactured by Tiemann & Co.

The following were some of the advantages of intubation of the larynx. It relieved dyspnœa due to laryngeal stenosis; the parents and friends offered no objection to the procedure, as they did against tracheotomy; it was a comparatively simple operation, free from danger, and did not require an anæsthetic; no fresh wound was added, and no trained assistant was required at or after the operation; the air entered the lungs moist and warm. The procedure did not preclude tracheotomy, and if this should prove necessary the laryngeal tube would offer a guide to cut down upon. The objections were that the tube rendered the swallowing of fluids embarrassing, although as a rule the child soon learned to swallow very well. One case had proved that there might be danger of obstructing the trachea by pushing the membrane before the tube. Intubation of the larynx might also be employed in other cases of laryngeal dyspnœa, as in syphilis, etc. The relief to the obstructed breathing was always very striking, and greatly encouraged the parents, but the physician should not give a favorable prognosis for forty-eight

hours, as serious complications might develop although the case had progressed well until the fortieth hour after relief of the dyspnœa.

The value of the procedure was manifest in the fact that twenty-eight and a half per cent. of the one hundred and sixty-five reported cases of intubation of the larynx for laryngeal diphtheria had recovered. He would not give statistics of recoveries after tracheotomy for the same condition, as those of different authors were so conflicting, but he thought they were not as favorable as those of intubation.

Dr. Francis Huber related eleven cases of laryngeal diphtheria in which he had done intubation of the larynx late in the disease, after there had been well-marked stenosis, and four of the eleven had recovered; one was still wearing the tube; the other five had died. Dr. Denhard, he said, had also performed the operation in eleven cases, five having recovered.

Remarks were also made by Drs. A. S. Hunter, Partridge, and Caillé.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held November 24, 1886, the President, John A. Wyeth, M.D., in the chair.

MILIARY ANEURISMS IN THE BRAIN.

Dr. R. Van Santvoord presented microscopic slides showing miliary aneurisms in the brain of a man who died with cerebral hemorrhage, and at the autopsy there were found six or seven cortical hemorrhages. After macerating the brain for a time, he took hold of both carotids and pulled out quickly a leash of vessels which, on being washed, showed six diseased branches.

CALCIFICATION OF THE AORTIC VALVES.

Dr. Van Santvoord presented the heart of a woman who claimed to have been only 55 years of age, but appeared much older. Her chief symptom was marked feebleness of the heart. The autopsy showed pulmonary phthisis, œdema of the brain, fatty liver, chronic diffuse nephritis, and tubercle in the spleen. The left ventricle was slightly hypertrophied and dilated, and contained a number of thrombi, firm and nearly white. The aortic valves showed advanced calcification. The cardiac muscle was fatty. There was œdema of the lungs, and Dr. Van Santvoord thought the case supported the conclusion arrived at by Dr. W. H. Welch from experiments, that œdema of the lungs often accompanied marked weakness of the left ventricle.

AORTIC REGURGITATION (FROM RUPTURE OF A VALVE?).

Dr. Van Santvoord presented the heart of a man, 44 years old, who during nine years had been an inmate of the Randall's Island Insane Asylum. He had formerly been a driver of a brewery-wagon. He was found to be suffering from an acute nephritis, which became complicated by pericarditis and ended fatally. A typical double aortic murmur was heard; there was also a systolic murmur at the apex, not transmitted to the left. A cardiac functional murmur was heard four days prior to death. The autopsy showed slight thickening of the arachnoid and anæmia of the brain. The lungs were very œdematous. There were lesions in other organs, but those of chief interest related to the heart. The pericardium contained about two ounces of clear fluid. Both layers of the pericardium were coated with yellow lymph. The right cavities were apparently normal. The left ventricle was considerably dilated and hypertrophied. Two leaflets of the aortic valve were only slightly thickened. The third, corresponding to the right coronary artery, showed a notch at one side of the corpus arantii. From one side of this notch projected three fibrous vegetations; from the other one, about one inch long. The mitral orifice admitted the ends of three fingers. The valves looked normal. The aorta showed extensive atheroma; it was not dilated. From the fact that two of the leaflets were only slightly thickened, from the notch-shaped lesion and limitation of the fibrinous outgrowth to the edges of this notch, it seemed probable that the lesion was caused by a rupture of the valve. Compensation of the cardiac lesion was apparently good prior to the patient's last illness. It seemed plausible to suppose that the extra strain thrown on the aorta by the cardiac systole, which was necessary to maintain this compensation, was a factor of importance in increasing the atheroma of the aorta. The valves, being subject to a subnormal strain on account of regurgitation, did not share in this factor, and so the unusual disproportion between the general disease of the valves and of the aorta might be supposed to have arisen.

Dr. H. J. Boldt presented a slough from the uterus produced by the use of chloride-of-zinc cotton after curetting the cavity in a case of carcinoma.

BILIARY COLIC—ULCERATION OF THE GALL-BLADDER.

Dr. L. E. Holt presented several medium-sized gall-stones which were found at autopsy in a case chiefly interesting in connection with the clinical history. The patient gave a history of biliary colic with jaundice. On the 8th of July last he was taken with extreme pain in the region of the stomach and right hypochondrium. The following day he had symptoms of acute gastro-enteritis and was jaundiced. At the end of ten days he had another attack, and from that time began to lose flesh and strength, and had more or less

fever. One day he had a violent chill, and the temperature rose to 104°. There being a history of malarial poisoning, quinine was given; but three days later the temperature rose again, and remained more or less elevated until death. The lesions of chief interest were the following: the stomach, duodenum, and two or three feet of the jejunum showed marked acute inflammation. The hepatic and common bile-ducts were pervious. The jaundice was apparently due to obstruction at the opening of the common duct into the duodenum, caused by the swollen condition of the mucous membrane. The gall-stones had ulcerated through the gall-bladder, exciting a localized peritonitis and becoming encysted in an abscess on the under surface of the liver, close to the gall-bladder. Death seemed to have been due to septic absorption from this abscess.

EXSECTION OF THE TIBIA FOR OSTEOMYELITIS.

The PRESIDENT presented the portion of the tibia lying between the epiphyses, removed by operation from a boy 12 years of age, who had been the subject of osteomyelitis. The periosteum was saved, and it was hoped there would be reproduction of the bone. This was the last of nine cases of destructive osteitis of the tibia in which he had operated within fourteen months. From two to four inches of the tibia were removed in the several cases, and all the patients had recovered with reproduction of bone except one, who returned with the tibia absent to the extent of about four inches. This patient was again admitted to the hospital, and Dr. Wyeth attempted to convert the tibia and fibula into a single bone by removing a thin piece at their articulating surface and wiring them together. It might be necessary to perform a similar operation at the other articulation. Dr. Wyeth thought there was scarcely a condition of osteitis of the tibia in which amputation was justifiable.

COCAINE IN MINOR SURGERY.

Dr. WYETH also presented a lipoma and a small cystic tumor removed from the forehead, and made them the basis of some remarks upon the value of the local use of cocaine as an anæsthetic in minor surgery. He had operated by this method of producing anæsthesia in a number of similar cases, and in cases of ingrowing toe-nails, circumcision, hemorrhoids, fistula in ano, etc., without producing pain. He had injected as much as three or four grains at a single operation without injurious effects. He employed a four-per-cent. solution.

Dr. BOLDT had seen less than one grain of cocaine injected into the region of the trifacial nerve produce serious shock.

Dr. LOCKWOOD recalled a case in which cocaine-poisoning was produced by the injection into the neck of twenty minims of a four-per-cent. solution preparatory to tracheotomy.

Dr. WYETH thought it unsafe to give ether or chloroform immediately after failure with cocaine.

Dr. HOLT had seen very unpleasant symptoms follow the injection of twenty minims of a four-per-cent. solution in a child.

Dr. SCHIFF had seen its use followed by sloughing in two cases of circumcision, and by parenchymatous hemorrhage in the case of another operation of an hour's duration.

A stated meeting was held December 8, 1886, the President, JOHN A. WYETH, M.D., in the chair.

CHRONIC ENDARTERITIS.

Dr. T. MITCHELL PRUDDEN presented the aorta and arteries of the brain removed from the body of a man of middle age, who died a few hours after being brought to the hospital in an ambulance, with apparent right hemiplegia. The interest in the case related to the very marked changes in the aorta and arteries of the brain, without lesions of other organs. There were numerous large patches of atheroma and fatty degeneration of the aorta, and nearly all of the cerebral arteries, including the finer ramifications, showed similar lesions. The arteries of the brain were obtained nearly complete by macerating the brain for a few days in water and then washing in a current.

Dr. PRUDDEN also presented a set of specimens illustrating the

BACTERIA OF TYPHOID FEVER.

Dr. CUSHIER presented a

FIBRO-SARCOMA OF THE PAROVARIUM

removed from a woman 37 years of age, married nine years, but never pregnant. Her general health had been excellent until a year ago last September, when the abdomen grew rapidly in size following a strain. The following March it diminished in size, and she was again able to go about. The latter part of last summer it increased rapidly in size again, and in November Dr. Cushier was consulted, who found a distention of the abdomen due apparently to an encysted dropsy, and a diagnosis of possible ovarian or parovarian cyst was made. On the 12th of November the abdomen was opened, and two very thin walled cysts burst as soon as touched. The principal tumor had a long pedicle, and in removing it a part of the ovary was cut through. The pedicle was found to consist of a number of tubes, as many as five, which admitted a probe, and ended in a blind extremity at the tumor. The fluid into which the tumor was placed de-

stroyed the lining membrane of these, which rendered them unfit for microscopical examination, but they were believed to have developed from the ducts of the Fallopian tube. The tumor itself was a spindle-celled fibro-sarcoma.

Dr. VAN GIESSEN presented

SECTIONS OF THE SPINAL CORD,

made at various points, and illustrating poliomyelitis anterior and tubercle.

TUMOR OF THE PALATE.

Dr. ROBERT NEWMAN presented a tumor, the size of an almond, removed from the junction of the hard and soft palates in a woman, 55 years of age, who had noticed the tumor during the past twenty years. Recently it had increased in size and given trouble. It was removed, without pain, after a dose of whiskey and the local application of cocaine. Dr. Newman remarked concerning the use of cocaine, that he had in one case injected twenty-five minims of a four-per-cent. solution into the bladder, which was immediately followed by a bursting sensation in the head which had now lasted ten days. The tumor was referred to the Committee on Microscopy.

A stated meeting was held December 22, 1886, the President, JOHN A. WYETH, M.D., in the chair.

RED ATROPHY OF THE LIVER—CIRRHOSIS OF THE KIDNEYS—THICKENING OF THE VESSELS AT THE BASE OF THE BRAIN.

Dr. W. H. PORTER presented the specimens for a candidate.

Dr. W. M. CARPENTER presented for a candidate specimens illustrating pyosalpingitis.

SYPHILITIC CHANGES IN THE LUNGS.

Dr. W. H. PORTER presented a lung which contained several tumors believed to be syphilitic gummata. He also exhibited a pair of lungs which were the seat of very extensive infiltration by the same material. Examination for the tubercle-bacillus had been carefully made, but without finding it. The clinical history in these cases showed scarcely any, if any, elevation of temperature, and this fact he attributed to the marked thickening of the alveolar walls throughout the lung, preventing entrance of the broken-down material into the lymph-sacs (with attending septic fever) and directing it into the bronchi; hence also the profuse expectoration. In tuberculosis the fever was due, he thought, to the easy access of the pus into the lymph-vessels causing septicæmia.

CASTRATION FOR SUPPURATING ORCHITIS, PROBABLY OF SYPHILITIC ORIGIN.

Dr. SCHIFF presented the testicle removed from a man who had, about six months before, been exposed at sexual intercourse. He first had gonorrhœa and two successive attacks of epididymitis. About a month after the exposure he had the initial lesion of syphilis, and within two months more had alopecia, gummatæ, and syphilitic condylomata about the anus. The testicle was extirpated three days ago, or about six months after the exposure to syphilis and gonorrhœa. Eight ounces of pus were evacuated. Dr. Schiff thought the orchitis was syphilitic.

PYOSALPINGITIS.

Dr. J. H. BOLDT presented the uterine appendages of one side removed for pyosalpinx in a woman who had complained of severe pain on the opposite side, where no disease was recognized. He also presented the organs removed in another case of unilateral pyosalpingitis. It was more common to find disease on both sides.

URETHRAL CALCULUS.

Dr. BOLDT presented a urethral calculus as large as a large pea, removed from near the meatus in a boy, aged 14 years, whose symptoms, consisting of severe pain and scanty micturition, began in 1875. He was for three months in Roosevelt Hospital, and was discharged incurable. Since 1877 he had had convulsions which the father described as epileptic. The operation for removal of the stone was performed only about four days ago, but the patient since that time had had no more trouble. Dr. Boldt thought the stone was too small to interfere with the flow of the stream if its location had been in the bladder; he therefore thought it had been during those years in the urethra, gradually growing larger. Nothing abnormal had been noticed in the urine; no stones could be felt in the bladder.

CARCINOMA OF THE VERTEBRÆ.

Dr. AMIDON presented a part of the vertebræ removed from the body of a man, aged 40, who was a clerk, accustomed to lifting heavy boxes, to which fact pains considered to be due to lumbago had been attributed. In March last he suffered from pain in the right side and leg, and later in the left side, chest, and abdomen; there was pain on pressure over the spinal column, most marked at the last dorsal vertebra; there seemed to be small nodules and hardening of the liver; the lymphatic glands were enlarged. A diagnosis of cancer of the spine was made. The autopsy showed almost complete destruction of the sacrum, and disintegration and infiltration of the lumbar and last dorsal vertebræ, most marked in the last dorsal. There were small nodules in the liver, and also infiltration at one point in the lung which had given physical signs during life. The microscopical examination was made by himself and by Dr. Ferguson, who considered the tissue to be cancerous. Dr. Amidon referred to two other

cases of cancer of the spinal column, in each of which there was pain on pressure, and also to the case of a little girl suffering from a tuberculous tumor of the spine in whom there was pain on pressure, and he concluded that the rule was not based on fact which attributed tenderness on pressure over the spine to a functional rather than to an organic lesion. He would say that the pain in the case reported was due to pressure of the cancerous material upon the spinal nerves as they passed through the intervertebral foramina; he believed the cancer of the vertebræ to be primary.

Dr. PRUDDEN remarked that it was not uncommon for the secondary deposit of cancer to be larger and more destructive than the primary, and he saw no reason for not regarding the tumors in the liver as of primary origin, and the deposit in the vertebræ as secondary, in Dr. Amidon's case. Primary cancer of bones was very rare, if indeed it ever occurred.

Cases of cancer of the vertebræ were related by Drs. MENDELSON, BOLDT, PORTER, and the PRESIDENT.

Dr. PORTER said that the more extensive the deposit the more likely was it to be sarcoma, not carcinoma.

MISCELLANY.

PHILADELPHIA COUNTY MEDICAL SOCIETY.—At the annual meeting for the election of officers, held January 5, the following were duly elected for the ensuing year:

President.—J. Solis-Cohen.
Vice-Presidents.—W. W. Keen, E. T. Bruen.
Treasurer.—L. K. Baldwin.
Corresponding Secretary.—M. S. French.
Recording Secretary.—S. Solis-Cohen.
Reporting Secretary.—W. H. Morrison.
Assistant Secretary.—A. C. W. Beecher.
Librarian.—C. W. Dulles.
Censors.—W. Joseph Hearn and DeForest Willard.

HYDROGEN DIOXIDE IN CATARRHAL AFFECTIONS.—Dr. John N. Mackenzie directs attention to the use of hydrogen dioxide in four-per-cent. solution for catarrhal affections attended by profuse muco-purulent discharge, used in doses of a fourth to half an ounce three, four, or even six times a day; for topical use he prefers a six-per-cent. solution. By some persons even weaker solutions cannot be used, on account of their irritating effect upon the air-passages. A marked improvement in the gastric functions was incidentally observed during its administration. Indeed, so striking has been its effect in this regard that it is worthy of more extended trial in obstinate stomachic derangement.—*Practice.*

NINTH INTERNATIONAL MEDICAL CONGRESS.—We are gratified to learn that Dr. Mariano Semmola, Professor of Experimental Therapeutics in the University of Naples, Italy, has accepted the invitation to deliver one of the "General Addresses" before the Congress, and that his subject will be "Bacteriology and its Clinical Therapeutics."

DR. JOHN B. DEAVER has been elected one of the Attending Surgeons to the Philadelphia Hospital, and Drs. Roberts Bartholow and Charles K. Mills, Neurologists to the same institution.

DR. F. A. PACKARD has been elected one of the Resident Physicians at the Pennsylvania Hospital.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 19, 1886, TO DECEMBER 31, 1886.

MAJOR W. H. FORWOOD, SURGEON.—Granted leave of absence for one month. S. O. 129, Department of Dakota, December 16, 1886.

MAJOR EGON A. KOERPER, SURGEON, U.S. ARMY.—Granted leave of absence for two months, to take effect about January 1, 1887. S. O. 297, A. G. O., December 27, 1886.

CAPTAIN J. V. LAUDERDALE, ASSISTANT-SURGEON.—Ordered from Fort Concho to Fort Clark, Texas. S. O. 174, Department of Texas, December 16, 1886.

FIRST-LIEUTENANT EDWARD EVERTS, ASSISTANT-SURGEON.—Ordered from Fort Grant to Fort Apache.

FIRST-LIEUTENANT CHARLES F. MASON, ASSISTANT-SURGEON.—Ordered from Fort Huachuca to Fort McDowell.

FIRST-LIEUTENANT W. B. BANISTER, ASSISTANT-SURGEON.—Ordered from Fort Wingate to Fort Lowell.

FIRST-LIEUTENANT W. D. DIETZ, ASSISTANT-SURGEON.—Ordered from Fort Stanton to Fort Bayard. S. O. 136, Department of Arizona, December 16, 1886.

FIRST-LIEUTENANT A. S. POLHEMUS, ASSISTANT-SURGEON.—Ordered for duty as post-surgeon at Fort Gaston, California, relieving

FIRST-LIEUTENANT H. I. RAYMOND, ASSISTANT-SURGEON.—Ordered for duty at Angel Island, California. S. O. 123, Department of California, December 13, 1886.

FIRST-LIEUTENANT JOHN L. PHILLIPS, ASSISTANT-SURGEON.—Granted one month's extension of his leave of absence. S. O. 297, A. G. O., December 27, 1886.

FIRST-LIEUTENANT C. L. G. ANDERSON, ASSISTANT-SURGEON.—Assigned temporarily to duty at Whipple Barracks, Arizona. S. O. 132, Department of Arizona, December 7, 1886.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING JANUARY 1, 1887.

PASSED ASSISTANT-SURGEON F. ANDERSON.—To U.S.S. "Thetis."

ASSISTANT-SURGEON E. W. AUZAL.—Detached from Receiving-Ship "Independence," and ordered to Coast-Survey Steamer "McArthur."

PASSED ASSISTANT-SURGEON E. H. GREEN.—Detached from Naval Laboratory for temporary duty on Receiving-Ship "Independence."

PASSED ASSISTANT-SURGEON J. D. GATEWOOD.—To Naval Academy, January 5, 1887.

PHILADELPHIA, JANUARY 22, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF CEREBRAL SYPHILIS WITH GLYCOSURIA—DEATH FROM ACUTE PHTHISIS AND DIABETIC COMA.

Delivered at the Pennsylvania Hospital, November 27 and December 4, 1886,

BY PROF. J. M. DA COSTA.

GENTLEMEN,—This patient has been in the hospital for only a short time, and occupies Bed No. 9 in the Men's Medical Ward. He is a colored man, 40 years of age, and was admitted four days ago (November 23). He states that his father died with phthisis. The patient looks older than the age given, but he is of spare frame and has never been robust. When a child, he fell and struck his head, and the next day at the breakfast-table he fainted. Ever since that time he has been subject to attacks of sick headache. Four years ago he acquired syphilis. The present illness, according to his statement, began nine weeks ago, when he became subject to vertigo and rapidly lost flesh and strength. He also noticed that he was passing a great deal of urine, rising several times in the night to empty his bladder. These symptoms steadily became worse, and within a few days of admission he developed a troublesome cough.

Upon admission he was weak and emaciated, his temperature was 99°, his pulse 92, the respirations 28 per minute. In the centre of the right lung we discovered a small area of consolidation. The urine was slightly acid in reaction, clear, amber, specific gravity 1042, and contained sugar in large quantity.

He was placed temporarily—and with a view to the lung-complication rather than for any other reason—upon small doses of iodide of potassium. Since he has been in the hospital a fever has developed. On the night after he was admitted his temperature was 102.4°. On the 25th it rose to 105°, and has continued a high fever-temperature.

He is very weak and miserable, and I will ask you to note that his heart-sounds are feeble; no murmur is distinguished.

I find in the notes that on the 25th he complained of pain in the abdominal region. His temperature this morning is down to 100°: the fever-process therefore has been modified.

With regard to treatment, I will also say that the treatment was at once changed as soon as we recognized the nature of the case,—partly on account of the fever-temperature and partly on account of the disease which underlies the whole affection. He was placed on salicylate of sodium, one drachm in twenty-four hours; and whether due to the remedy or to something else, in twenty-four hours the fever-process had decidedly ameliorated. He also passed a smaller quantity of urine: it has been reduced from six pints to four pints per diem.

Upon examination of the lung this morning, I find that there is general dulness on the right side of the chest anteriorly, and it becomes more marked as we go towards the lower part of the right lung. There is harsh respiration heard over the lower part of the same lung. As we go to the side we find the same dulness that was noted on admission. There is no pleuritic effusion. There is also diminished resonance at the upper part of the left lung. His tongue is dry, cracked, and coated. His face is thin; his mind is rather dull; pulse 120 and extremely weak; he complains of everything swimming before him. It is evident that he is in a very low condition.

Now, gentlemen, we have here a case of acute diabetes before us, with a pulmonary complication and a febrile condition, and these, roughly speaking, are what we have to explain. Add to this a certain amount of drowsiness and mental dulness, coming on late in the attack, and all this in a man who was in good health nine weeks ago, and appearing without obvious explanation except a history of remote head-injury if you choose to accept the statement. I do not myself lay much stress upon it. But how shall we explain the lung-complication? Cases of acute diabetes are very apt to have attacks of consolidation of the lung, either acute broncho-pneumonia or acute phthisis. It is not generally a difficult diagnosis between the two. Careful physical examination is out of the

question now, on account of the man's weak condition; but, even without it, if, as here, there is much emaciation, cough, and apex-consolidation of the lung, we may assume that the affection is due to tubercular disease.

Returning to the question of treatment, I placed this man upon salicylate of sodium. If there is a remedy which will do good in diabetes, it is this: a long experience with salicylate of sodium in the treatment of diabetes leads me to regard this as the best in its management. I have had now a large number of cases, both here and in other public institutions and in private practice, and I have had better results with salicylate of sodium than with any other remedy. It is better than opium, and without the bad results of opium. I give from a drachm to a drachm and a half in twenty-four hours for a certain period; then stop it for a time, and go back to it again. I have noticed also, when there is diabetes and gout at the same time,—and a diabetic diet favors the development of gout,—that the salicylate of sodium enables the patient to go on with the treatment of the diabetes without exciting the attacks of gout. Again, in a case of high temperature it is particularly advantageous. You may ask, Is it the acid or the combination with the base that is so efficient? I have tested this. I have placed patients upon salicylic acid alone, and have placed them upon other sodium salts, and also upon salicylate of sodium, and have found that, although salicylic acid does good by itself, and the sodium salts undoubtedly do good, yet diabetic patients do better upon the combination than upon either singly. But these are the results of tests extending over weeks of observation, and I have not time to refer to the cases to prove this.

For the few days that we have had the case under observation we have only had time to resort to treatment for his general condition rather than any direct specific treatment. To relieve his present low condition he should have six ounces of whiskey and twelve grains of quinine daily, while we keep up the salicylate of sodium. You know that the diet of these patients is usually restricted to green vegetables and meats; but this must not be rigidly adhered to with him. He shall have oysters, eggs, and milk, but no starchy food.

One other point in conclusion: Is his weakness and mental dulness due to the phthisis? or is it a part of the effects of diabetes,—what has been called diabetic coma, or acetonæmia, and due to retention of matters in the blood which give rise to cerebral symptoms?

As the hour has expired, I will not be able to discuss the question at present, but will leave it for our next meeting.

(*Clinical lecture continued, December* 4, 1886.)

GENTLEMEN,—This morning I wish to direct your attention first to the specimens obtained from the autopsy of the case of diabetes which was before you at our last clinic in almost a comatose condition. He died on the same day. I confess that I thought that that would be the result, because, as I told you then, he had had a continued high temperature, and there were such evident signs of extreme exhaustion that we had to abandon all treatment except stimulants and measures directed towards supporting his strength. You remember that there was decided dulness on percussion at the base and at the apex of the right lung, and that there was also moderate dulness over the upper lobe of the left lung. I remarked that it was most likely of a tubercular character; and this has proved to be the case. We have here the specimens, and you can see how far the signs observed during life correspond with what we find after death. First, look at the kidneys: they are firm, swollen, not much enlarged; the cortical substance is pale, striated, and opaque. The capsule is easily removed, leaving a smooth surface. Both kidneys are alike, except that in the interior of the right a small, hard nodule is noticed, which looks like a tubercle: it will be removed for microscopic examination. With this exception, there is nothing in the kidneys which can be said to be at all out of the way. The spleen is very small and firm, weighing only two ounces; the pancreas is also small, its substance is quite pale, and it appears shrunken and atrophied; the liver weighs only two pounds ten ounces. The surface of its section smells strongly of acetone. The gall-bladder is shrunken, and contains a small quantity of pale bile. Coming to the lungs, we observe that the upper part of the left lung is consolidated, and it contains upon its cut surfaces numerous

shot-like bodies harder than the surrounding tissue; the right lung presents a similar appearance at the point over which we detected dulness. No doubt can exist as to the presence of these tubercular formations in the lung. At the apex of the left lung there is a cavity with thick walls, and at numerous other points in both lungs are areas of softening filled with fluid; no tubercle-bacilli were detected in these fluids. The aorta presents marked atheroma, with slight dilatation; the heart shows a moderate degree of hypertrophy of the left ventricle, and contains a very firm fibrinous clot; the valves are normal, except slight atheroma of those on the left side. It weighs eight ounces.

But what is more interesting is the condition of the brain. You will remember that when he was before you he was very dull and stupid; there was no improvement after you left, and he died comatose a few hours later. Let us see if there is any explanation for those symptoms. I will read the preliminary report of the pathologist, Dr. Longstreth, who intends making a careful microscopic study after the brain has been properly hardened. "On removing the skull-cap a considerable amount of serous fluid escaped from beneath the dura mater. Upon the convexity of the cerebrum there is decided opacity of the pia mater; some of the cerebral convolutions are shrunken, and in the interior part of the longitudinal fissure quite firm, old adhesions exist between the two hemispheres. The lateral ventricles contain a small amount of serous effusion; there are small transparent cysts in both choroid plexuses; the third ventricle also contains some clear fluid. The substance of the cerebrum is very firm in most parts: on section of the basal ganglia they are found to be softened in some of their layers. The cerebellum is soft throughout, except the corpus dentatum and the central white substance; the crus cerebri of the right side contains a dark-colored elliptical area which looks like an old spot of hemorrhage or the remains of a gummatous growth; below this point the crus is softened. The pons Varolii is also softened throughout, but especially on the right side, which is shrunken. The substance of the medulla oblongata is also softened—including the tissue forming the floor of the fourth ventricle—as far down as the beginning of the spinal cord. The softening here is also more marked on the right side, but the difference between the two sides is less decided than in the pons."

Now, what did this man die of? Exhaustion, clearly, with coma. There is no doubt in my mind that this patient had acetone in the urine and in his blood, as we find it here in the liver. In other words, there was acetonous formation going on in various parts of the system. The urine had a strong smell of acetone, and when examined during life gave the color-reaction with ferric chloride. The odor is one you cannot forget when once you have learned to recognize it, though it is difficult to describe. Some have thought it like the odor of chloroform, others like that of bitter almonds, with a somewhat ethereal odor at the same time.

Now, gentlemen, with the results before us, we may inquire how they correspond with the symptoms observed during life. In the first place, how do we explain the condition of acetonæmia? It simply means that there is acetone in the blood; and it has been assumed that diabetic sugar undergoes transformation into acetone and poisons the nervous system. That this substance existed both in the urine and in the blood is evident. Yet are we warranted in attaching to acetone the same importance as we do to urea in Bright's disease? Is the coma due to the presence of acetone in the blood, just as we have excess of urea in the blood in uræmia? I think not. We cannot always connect the cerebral symptoms of diabetes with the presence in the blood of acetone or any kindred substance; and the reason I say this is that I have followed up the cases, of which I have records of a number, and have found that we may have this peculiar cerebral disturbance without acetone in the urine, and we may have a decided amount of acetonuria without the occurrence of coma. I believe that the inference is warranted that there is no necessary connection between the two conditions. The invariable cause of the nervous symptoms of diabetes, if there be one cause, is unknown.

When the patient was before you I did not go into the cause of these symptoms, as we had not the time, but I referred to a blow upon the head received in early childhood. As he had been well for many years afterwards, I advised you not to attach much importance to this. Have

we, then, a more direct explanation of the cerebral disease? Here we find softening of the crus cerebri, of the pons, and of the floor of the fourth ventricle,—in other words, of those parts of the brain which when diseased are known to be associated with diabetes mellitus, and in the neighborhood where, in animals, puncture will give rise to glycosuria.

I believe that in the present case these lesions were due to syphilis and had no connection with the old head-injury. They are recent, there is decided atheroma of the arteries, and diffuse lesions in the meninges, besides the softening in the crus and pons. Microscopic examination shows the deposits to be syphilitic, and some are decidedly gummatous in character. I regret that the history of this case is so defective, but we have learned from the friends of the patient that he had not been in usual health for nearly a year; he often spoke of vertigo, and complained of rheumatic muscular pains, which were probably syphilitic. He did not, however, particularly complain of headache, although he had been more or less subject to headache all his life. We could not find any evidence that there had been any increase in his headache recently, nor is there a history of any disturbance of special sense. He had lost flesh rapidly of late, and this was associated with increase in cough. Although during life the diagnosis of cerebral syphilis was a pretty vague one, it was fully confirmed by the autopsy.

Another question which is of considerable interest here is, Are the lesions in the lungs tubercular or syphilitic? This will bear careful study. An examination of the lungs failed to show the presence of the bacilli of tubercle, yet the other features were so characteristic, so like ordinary tubercular lesions, that I will pronounce the case one of acute phthisis complicating diabetes terminating in diabetic coma. The latency of the symptoms may have been due to the slow progress of the syphilitic deposit, but the specimens before you show it to be undoubtedly a case of cerebral syphilis.

ANTIPYRIN FOR HEADACHE. — Various kinds of headache were promptly relieved at their onset by fifteen-grain doses of antipyrin, in the hands of Dr. John Blake White, of New York.

ORIGINAL COMMUNICATIONS.

A REPORT ON RECENT PROGRESS IN NERVOUS AND MENTAL DISEASES.

BY JAMES HENDRIE LLOYD, A.M., M.D.,
Instructor in Electro-Therapeutics in the University of Pennsylvania.

MULTIPLE NEURITIS.

DR. W. R. GOWERS, in his recent work ("A Manual of Diseases of the Nervous System"), gives a very clear description of this disease, which is now attracting so much attention.

He thinks that the "discovery" of multiple neuritis is one of the most important steps in the recent advance of neurology. The morbid change may be interstitial (between the fibres), or parenchymatous (degenerative change of the fibre itself), or both. He differentiates five forms of the disease. (1) Diphtheritic neuritis: a parenchymatous degeneration of the nerves, associated, however, with disease of other parts. (2) Tabetic neuritis: the slow chronic changes in nerve-trunks which occur in locomotor ataxia, and which may possibly not be inflammatory. (3) Leprous neuritis: the slow interstitial overgrowth of connective tissue which occurs in anæsthetic leprosy. (4) Endemic neuritis, as in the Japanese disease called kakké (and the more familiar beri-beri?). (5) Under this head he places the "other forms of multiple neuritis," which, indeed, constitute the disease to which the name is usually restricted. Gowers finds the disease most common in females, which is unexpected when he states that by far the most common cause of it is chronic alcoholism. In fact, he uses the terms "alcoholic paralysis" and "multiple neuritis" as almost identical." Among other causes, however, which he admits to be sometimes operative are cold, fatigue, rheumatism, phthisis, septicæmia, and exhausting diseases.

The pathology may consist either in parenchymatous or interstitial changes in the nerve-trunks, but in severe cases probably in both. He insists that the fibres are always damaged; but in some cases the connective tissue presents little change. As the trunks are traced upward, the evidence of inflammatory changes becomes slighter, and in all forms the anterior roots are usually normal. The nerves in

the limbs alone suffer in the majority of cases, and the affection is bilateral. The nerves supplying the extensor muscles of the hand and foot are especially liable to attack. Very rarely the phrenic, pneumogastric, facial, and hypoglossal have been inflamed, the other cranial nerves escaping. The muscles usually degenerate, as in simple forms of neuritis. The cord is usually normal. The symptoms are the same as follow inflammation of a single nerve, differing only in their wide range; they are especially motor palsy and sensory irritation. The motor palsy, as said above, is apt to be most pronounced in the musculo-spiral and anterior tibial nerves. [It is rather unfortunate that Gowers insists upon saying that the extensors *flex* the foot. The anterior tibial nerve supplies *extensor* muscles, which, by perfect analogy with the extensors in the arm, *extend* the foot. Hence in the paralysis resulting from multiple neuritis we have both wrist-drop and foot-drop. This solecism occurs through the whole chapter and book.] The symptoms are apt to set in acutely, and to be accompanied by rigors and fever. The sensory symptoms come first as vague "pins and needles sensations" in fingers and toes, preceded perhaps by rheumatoid pains. These pains increase until finally the nerve-trunks become tender on pressure, and superficial nerves, as the ulnar, may be felt to be distinctly swollen. The muscles also become very sensitive to pressure. Motor palsy supervenes, and resembles in the arms lead palsy, with the important distinction that the supinator longus muscle is apt to be involved, as it is not in plumbism. In severe cases the flexors of the wrist and ankle (hand and foot) also become involved, as do also the muscles moving the elbow-, knee-, shoulder-, and hip-joints. Electrodiagnosis is important. The nerve-trunks lose their electrical excitability [probably more completely than in some forms of anterior poliomyelitis], and the muscles put on the reactions of degeneration. Gowers calls attention to a distinct incoordination of movement, which it is important to distinguish from locomotor ataxia. The sensory phenomena are, briefly, hyperæsthesia of the extremities, especially of the palms and soles; anæsthesia along the radial side of the forearms and outer side of the leg in particular, sometimes associated with pain (*anæsthesia dolorosa?*). Reflex action is *always* lost. Trophic changes and œdema have been observed. The duration of the disease varies, but at best it is apt to extend over several months. In very severe cases death has occurred from failure of the muscles of respiration, especially the diaphragm. An important complication is mental impairment, often with delusions, particularly in the alcoholic cases.

The author does not make any novel recommendations by way of treatment. He relies upon rest, hot fomentations, counter-irritation, and the galvanic current. The article is chiefly valuable for its clear-cut, lucid description of the disease, in the author's well-known style; which description is especially welcome now, when so many diverse affections are being hastily grouped under this head in the modern eagerness for clinical novelties.

INFANTILE CEREBRAL PARALYSIS.

Dr. R. Norris Wolfenden, in the *Practitioner* for September, 1886, describes four cases of this affection. The disease has also been called spastic cerebral hemiplegia, and, again, *poliencephalitis acuta.* These names, among them, manage to describe something of the disease. The last, as indicating the pathology and being analogous to *poliomyelitis*, is on some accounts the best, were it not too technical and pedantic. One of these cases was briefly as follows. A boy of ten months was attacked with a series of convulsions, followed by paralysis of the left arm and leg. For six months the leg and arm were spastic; then they relaxed, leaving permanent weakness. Epileptiform attacks continue at intervals of about twice a week. Intelligence had been much impaired, so that at eight years he could not be taught to read. Weakness of the arm and leg continued, and the fingers were subject to slight athetotic movements. The tendon-reflexes of this side were exaggerated. There were no reactions of degeneration.

The disease is distinguished from *spinal* paralysis by the affections of the intellect, speech, special senses (sometimes), and the absence of impaired sensibility. In the spinal form also there is atrophy and coldness, with progressive reactions of degeneration, while the spastic condition is not an early and characteristic sign. Club-foot deformities are more constant and

persistent in the latter. The cerebral form may be said to occur more as a hemiplegic and epileptic *type*. The disease has followed dentition and the eruptive fevers, but in many cases the cause cannot be determined. It is an affection of early infancy. The pathology is somewhat obscure; but the indications are that the motor cortex of the brain is the seat of a circumscribed inflammatory process or some other form of degeneration.

[We no doubt have in these accidents the cause sometimes of acquired idiocy. The resemblance of the cases of Dr. Wolfenden to the *focal* epilepsy of Hughlings-Jackson seems to be marked, although the writer does not dwell upon it. The rapid and permanent injury to the brain is what we would expect in very young children. It seems strange that the descending degeneration along the motor tract of the spinal cord, as described by Charcot in adults, with continued contractions in the affected limbs, is not more noticeable in these reported cases. Exaggerated reflexes are part of this symptom-group. These cases are to be distinguished from that other class of imbeciles which depends upon a congenital abnormality or arrest of development. These latter cases usually show some tendency in the fissures and convolutions of the brain to a reversion to a lower type of cerebrum. Dr. Francis Dercum exhibited a series of such brains at the last meeting of the Philadelphia Neurological Society, all taken from epileptic dements, and explained a theory for the epilepsy based upon the loss in such brains of their static equilibrium because of unequal development of cortical areas.]

MUSCULAR ATROPHY IN HYSTERICAL PARALYSIS.

Dr. J. Babinski has a lengthy article on this subject, commencing in the July number of the *Archives de Neurologie*, in which the writer states that his treatise is designed to show that trophic disorders, especially muscular atrophy, can depend on hysteria and can be observed in hysterical paralysis. He says that observations at the Salpêtrière under M. Charcot have established this point. He gives cases in great detail, to only one of which we can refer at present. This was a young man of 21, of marked hysterical characteristics, who was suddenly taken with a left brachial monoplegia, with complete anæsthesia. He was unconscious for many hours. For more than two months the paralysis persisted, with alternate flaccidity and contractions, and was accompanied by a quite pronounced amyotrophy. Other symptoms were a slight paresis of the left leg; various hysterical attacks caused by pressure in certain regions; hemianæsthesia; transitory hysterical mutism; occasional retention of urine. The monoplegia disappeared under massage, with "flagellation" in the right temporo-parietal region. The amyotrophy disappeared upon the return of the movements. Babinski makes the differential diagnosis between this affection and an organic lesion of the motor cortex in the arm-centre, and slightly in the leg-centre, which the case certainly strongly resembles. The resemblance is further sustained by the contracture of the affected arm, as well as its wasting, both of which might have been caused by a descending degeneration along the motor paths from such a lesion in the cortex, as has been shown by Charcot and others. He argues that the alternating character of the rigidity and flaccidity is against the view of a secondary descending degeneration, as is also the early appearance of the contracture. The convulsive attacks were proved to be hysterical by the *globus hystericus*, by the fact that they could be produced by pressure on certain hysterogenic zones, by opisthotonos, and by the sudden return to consciousness. Again, the abolition of sensation is much greater in this case than would occur in a cortical organic lesion. The affected muscles did not show any fibrillary contractions, and the only electrical change noted was a diminished contractility without modal change or the reactions of degeneration. The muscles manifestly affected were the deltoid, great pectoral, shoulder muscles, biceps, and triceps. By actual measurement the paralyzed arm was about three centimetres less than its fellow.

[Wasting of muscles, with diminished electro-contractility, has been noted before in hysterical affections and attributed to disuse merely; but the interest which attaches to M. Babinski's case is that it occurred very quickly after the paralysis, so as to suggest almost an active process, and resembled, because of its marked character, the amyotrophy of an organic lesion.]

CAPILLARY EMBOLISM AND CHOREA.

Dr. Angel Money publishes in the *British*

Medical Journal for July 17, 1886, the results of his experimental studies of chorea. His experiments were made upon monkeys by injecting preparations of starch into the carotid arteries. The principal result obtained was hemiplegia, and not chorea. Dr. Money's conclusions are as follows, and from them it will be seen that he is by no means one-ideaed about either the nature or the seat of the lesion:

1. Human chorea is generally and mainly of cerebral origin, though a few cases may be of purely spinal source.

2. The commonest lesion causing chorea is a "rheumatic" affection of the circumvascular connective tissues of the motor apparatus of the brain and cord.

3. Embolism may be a cause of chorea in rare instances.

4. Chorea may be set up by "fright," when the lesion is probably a molecular disturbance of the cerebro-spinal motor apparatus.

THE CONNECTION BETWEEN EMPYEMA AND HEMIPLEGIA.

The details of a case are given in abstract in the *Practitioner* from M. Barbez, who reports it in the *Revue de Médecine* for June, 1886, in which five weeks after the evacuation of a highly-offensive empyema the patient became suddenly paralyzed in the right arm, with aphasia, and continued for more than two months in this condition, with mild delirium. There were some spasms of the affected arm.

Especial attention is attracted to the case by the explanation which is given of the connection between the two conditions. M. Luys considered it a case of limited left lateral meningitis. But M. Barbez classes it among so-called *reflex* hemiplegias, cases of which have been reported by several writers. The explanations seem very far-fetched to us. As the patient had a good ground-work for pyæmia, we would rather suppose that his brain-trouble was of septic origin, probably embolic.

CASTRATION IN MENTAL AND NERVOUS DISEASES.

In the *American Journal of the Medical Sciences* for October, 1886, a "symposium" is given under the above heading, contributed by Sir Spencer Wells, Dr. A. Hegar, and Dr. R. Battey. It is the most important series of opinions on this subject, as affecting the neurologist, which has appeared. The student of mental and nervous diseases had regarded as exploded the old theory that the womb, or its appendages, was the seat in any sense of the grave neuroses and psychoses. His new faith, however, was threatened, and perhaps a little shaken, by the zeal of the gynæcologists, who began to report that they cured hysteria, and even insanity, by spaying women. The authoritative opinions now expressed in this "symposium" by three of the most eminent specialists will give the neurologist an opportunity to form anew his own judgment on the subject; and we doubt if he materially recasts it. Our limited space permits us to do little more than mention the conclusions of the writers.

The paper of Wells is the broadest, most critical and entertaining, of the three. "The oöphorectomists of civilization," he tells us, "touch hands with the aboriginal spayers of New Zealand." We are not concerned, of course, with the ablation of normal ovaries in cases of uterine fibroids with uncontrollable hemorrhages, nor in malformations of the genital organs and obstructions of the vagina,—in some of which cases this eminent surgeon cautiously endorses the operation, — nor hardly in uncontrollable neuralgia, if it be *really proved* to be ovarian (in which case one enthusiast would pull out the gland as he would a bad tooth); but for pure nervous and mental diseases we put great confidence in the following conclusions of Sir Spencer Wells: "That in nearly all cases of nervous excitement and madness it is inadmissible; that in nymphomania and mental diseases it is, to say the least, unjustifiable."

In the papers of Hegar and Battey, who were original champions of the operation, the reader will be apt to expect more of the logic of the special pleader; but, while he does find this, he will be constrained to admit that the papers are in a sense conservative, and, by implication, not a little condemnatory of many who have undertaken this grave operation. The fault with Hegar's paper, for the practical neurological mind, is its abstruseness. He works out his principles with a minuteness and prolixity which are quite characteristic, but leaves the reader in doubt as to who will make these nice distinctions and apply these principles with precision. He does not give his conclusions in abstract, so as to be readily quoted, but the trend of the

reasoning is that, if a distinct causal relation can be established between the ovaries and a mental or nervous disease, it is reasonable and justifiable to cut them out. This as a broad principle might be difficult to combat, but it leaves the operator in each individual case as the sole guarantee that such a relationship *did* exist,—a diagnostic pre-eminence which all neurologists will certainly not yield to all who do this operation.

Dr. Battey begins his paper with a remarkable plea (as lawyers say) of confession and avoidance. He says he was mistaken in his early cases when he called the operation "*normal* ovariotomy:" that the ovaries and tubes removed have really been diseased. The diseases are small cysts and "fibrous degeneration" of the stroma. This seems as though meant to give the operation more plausibility; but the force of it is weakened by a quotation from Emmet, in this very article, who says that in hundreds of post-mortems he has learned "that what seemed to be a perfectly healthy ovary was a condition seldom found after death in any woman over twenty-five years of age." Dr. Battey castrates for oöphoro-mania, oöphoro-epilepsy, and oöphoralgia. The majority of alienists will probably deny point-blank the very existence of this first disease. It is doubtless meant to specify the severer forms of hysteria, just as the second class signifies the convulsions of that mystic disease. The fact that *all* the pseudo-epileptics (nine in all) are cured suggests strongly the effect of mental impression; while the fact that only one of his seven cases of mania is cured suggests equally that he has operated upon some genuine cases of maniacal insanity.

The following is Battey's table, all the cases having stood at least two years:

	Cured.	Improved.	Not Improved.	Total.
Oöphoro-mania.....	1	4	2	7
Oöphoro-epilepsy	9	0	0	9
Oöphoralgia.....	13	3	4	20
Total.....	23	7	6	36

It will be seen that ovarian neuralgia, the least serious disease of the list, gives the second-best results. The article closes with quotations from many well-known operators in America,—some of them very general, a few hopeful in their limited experience, all cautious, and one—Dr. Emmet, like Sir Spencer Wells—positively discouraging.

A more hopeful field for the surgeon in brain-disorders is mapped out in the following article.

BRAIN-SURGERY.

Mr. Victor Horsley read an elaborate paper recently on the surgery of the cortex before the British Medical Association, which has been published in the *British Medical Journal* for October 9, 1886. He treats especially of the surgical details necessary to the immediate operation, of which it is sufficient to say that strict antisepsis is inculcated and the most exact directions given about the incision, hemorrhage, hernia cerebri, and subsequent treatment. The student of brain-diseases will be especially interested in the cases of Horsley, their successful diagnosis, and the light which they throw upon the functional topography of the cortex.

Case I. was a young man, aged 22, with traumatic epilepsy dating back fifteen years. He had as many as *three thousand* fits a fortnight. He had a scar with absence of bone directly over the centre of the upper third of the ascending frontal convolution. His fit corresponded exactly to such as are produced from a focus of discharge in this locality,—*i.e.*, the parts affected were in the order of lower limb, upper limb, face and neck of the opposite side, the movement being first extension, then confusion, then flexion. A mass of fibrous tissue was removed beneath the scar. Temporary paralysis of the affected arm, with some loss of *tactile sensibility* and muscular sense, followed, but gradually disappeared. Up to the time of the report the patient had had no fits.

Case II. is a remarkable instance of successful diagnosis. An irritative lesion (which proved to be a tumor) was foretold in the ascending frontal and parietal convolutions, at the junction of their lower and middle thirds. This location was suggested by the spasmodic opposition of the thumb and forefinger which ushered in each fit. The tumor was successfully removed. It was followed by *temporary* paralysis of the affected members, also some *hemianæsthesia*. A complete cessation of fits was reported to date.

Case III. was an inveterate epileptic, having fits in batches of three or four every three weeks. The condition dated

back to an injury probably nineteen years before. This man had hemianæsthesia. The diagnosis was an irritative lesion in the posterior third of the superior frontal convolution. Depressed bone and scar-tissue were found, as predicted, and removed. The following are Horsley's deductions:

1. Temporary paralysis of motion and muscular sense may follow ligature of the vessels supplying that part of the motor area in which the lost movements are represented.

2. Temporary paralysis of sensation and movement of the so-called hysterical or functional type may follow operations upon the motor area in man.

3. These cases suggest the possibility of the muscular sense being represented in the excito-motor area.

It is interesting to note that the hemianæsthesia which existed in Case III. was dispelled by a strong faradic current to the region of the scar, but that the fits were not affected by it.

It is impossible to do perfect justice in an abstract to this very important and original paper of Mr. Horsley upon the gross physiology, pathology, and surgery of the brain. His cases supplement that of Bennet and Godlee in London and the successful one of Mills and White in Philadelphia.

TRANCE-CASES IN INEBRIETY.

Under this head in the *Journal of Nervous and Mental Diseases*, September–October, 1886, Dr. T. D. Crothers, of Hartford, Connecticut, describes spells of sudden loss of consciousness in inebriates somewhat similar to the "blanks" of epilepsy. They vary as in epilepsy, and may be partial or complete. They are sometimes of long duration (three hours). "Thus, an inebriate suddenly changes in conduct and language without any cause or reason, and without the usual symptoms of intoxication; or he follows an accustomed line of action in such an automatic and mechanical way as to excite attention and yet not be intoxicated. Afterwards he claims not to have remembered these periods, and his conduct and language sustain his statement."

The author of the paper thinks that great importance attaches to these trance-like spells as affecting the question of responsibility. He gives a number of interesting cases in support of his belief in this condition. "Prominent crimes and acts committed under strange, unusual circumstances by inebriates may furnish good evidence of these trance-states." Absence of motive becomes an important consideration in connection with any crime committed in this state. In the trance (which is to be distinguished from the excitement or stupor of intoxication) the individual *appears* to know exactly what he is doing, but afterwards has no memory of it whatever. These *blanks* usually occur during prolonged drinking-bouts, in which the man keeps himself constantly *full* without becoming overwhelmed with his liquor. As illustrations, "a hotel-clerk will, after periods of excess of drink, wake up in a Turkish bath, and have no idea how he came there. A farmer has found himself working on the farm, and the last event he could recall would be at a distant bar-room." These trances may occur at the beginning or during or after the alcoholic poisoning. A merchant "loses all recollection of what takes place; has no idea but that he has been asleep; and cannot realize that some days have passed in which he has been about with apparent sanity and judgment."

Dr. Crothers has a poor opinion of the memory of a confirmed inebriate, and thinks he is a most incompetent witness of any facts concerning himself or surroundings. In a recent murder trial, the prisoner, an inebriate who committed the crime while in one of these trance-states, was told at the police-station by an officer some details of the act, which he afterwards recited as events he could remember. On this he was convicted. It was ascertained afterwards that these details were false and unsupported by the facts. They were the views of the officer, and the prisoner did not recognize their origin or inconsistency. Another inebriate confused his own confession with that of a fellow-burglar confined in the same cell. This *impressibility* by the immediate surroundings, with automatic response to external impressions, and loss of memory appear to be the distinctive features of this interesting state. The author expresses his belief that responsibility in these cases can be determined only by careful study of each case, and not by any preconceived theory of responsibility in disease.

[The law is slow to allow a man to plead his own minor crimes in defence of his major ones: hence drunkenness has not been considered an excuse for murder. This may or may not be philosophical and humane; but it has been supported by the general sense of mankind. The usual exceptions to this rule seem to be in cases of chronic alcoholism, wherein the man may be said to have established a permanent psychosis, such as the drunkard's delusion of marital infidelity. Dr. Crothers's instances of *trance* in chronic inebriety would probably come under this head of established brain-impairment. The condition, if well determined, would certainly raise an interesting question of responsibility, which it might be easier for an alienist to settle to his own satisfaction than to prove to a judge and jury. Ray reports a very interesting case of this kind.]

THE CLASSIFICATION OF MENTAL DISEASES.

On the 8th of September past, a conference representing various distinguished scientific bodies of the United States and Canada, and eminent alienists and publicists, was held at Saratoga, New York, for the purpose of co-operating with an International Committee appointed at Antwerp last year under the auspices of the Belgian Society of Mental Medicine. The object was to recommend to this International Committee a basis for classification of mental diseases, in the hope of securing a uniform basis in all countries of the civilized world. The following plan of classification was adopted:

1. Mania: acute, chronic, recurrent, puerperal.
2. Melancholia: acute, chronic, recurrent, puerperal.
3. Primary delusional insanity (monomania).
4. Dementia: primary, secondary, senile, organic (tumors, hemorrhages, etc.).
5. General paralysis of the insane.
6. Epilepsy.
7. Toxic insanity (alcoholism, morphinism, etc.).
8. Congenital mental deficiency (idiocy, imbecility, cretinism).

[It will be seen that this classification is remarkably free from the elaborate differentiations which are now adopted by some writers. It looks like a reversion to the simplicity of a former and, it was supposed, more ignorant generation. The truth is that while the clinical study of insanity has advanced and been very prolific of a useful and instructive literature, our knowledge of the *essential* functions and pathology of the cerebral masses is not greatly more advanced than it was with the fathers; and without more of such intimate knowledge (unbiassed by speculation and opinion) the very foundation for a perfectly acceptable classification does not exist.]

FACIAL SPASM AND TIC-DOULOUREUX FOR WHICH NEURECTOMY AND NEURO-TENSION WERE EMPLOYED.

Read at the Philadelphia Neurological Society, December 27, 1886,

BY GUY HINSDALE, M.D.

I HAVE the pleasure of asking your attention to the records of two cases of persistent trifacial neuralgia and also a case of painless facial spasm. The two former were under the care of Dr. S. Weir Mitchell at the Infirmary for Nervous Diseases, and the last under the care of Dr. W. Sinkler, by whose permission they are brought before this Society.

The cases are of interest from the fact that the first was treated by medicines pushed to an extreme limit; the second, failing to improve under medicines, was treated by exsection of the infraorbital nerve; while the last was treated by stretching the facial nerve.

The cases are not reported because of any supposed rarity, or because they are in any way particularly remarkable; but merely to show what is the practice of the hospital, and to invite an interchange of views as to the relative merits of the treatments adopted.

Mrs. H., suffering with neuralgia of the right side of the face, entered the Infirmary for Nervous Diseases November 9, 1885. She is 62 years old, was born in New Jersey, and has always lived there. She considers her home dry and healthy and free from malaria. Her father died with phthisis. The patient herself has never had malaria or chills and fever, but had an attack of pleurisy fifteen years ago, associated with a severe cough. This has been her only severe illness. She has been married forty-two years, and has had fourteen children, of whom two only are living. Eighteen years ago she experienced a severe shock in the loss of six children from diphtheria within a period of four weeks: she had previously lost others in their infancy.

Twenty years ago the patient began to have twinges of pain in the lower jaw. Four or five years ago she suffered from attacks of neuralgia of the right side of the face two or three times a year: these attacks lasted from one to three months. In 1884 she had four or five attacks, one of which lasted two months; though quite weak, she was not confined to her bed at any time. Fever sometimes accompanied the attacks, without any chill, but with a cold sweat when the pain was very severe.

A year or two ago the pain occurred at any time during the day, but passed away at evening, upon retiring and remaining quiet. In April, 1885, the pain began to be worse at night, but it cannot be said that any special hour was observed. Cold air, eating, or drinking very hot drinks, motion in bed, bad news, mental trouble, aggravated the pain. Rest, peppermint-essence dropped on the tongue, sweating the face with hot bricks dampened with whiskey and wrapped in cloth, did for a time relieve the pain.

The treatment adopted consisted of rest in bed, good feeding, and the use of an ascending galvanic current. This was applied to the right side of the tip of the tongue and to the right side of the lower jaw for fifteen minutes, morning and evening. This was the chief locality of pain. Cod-liver oil, ʒiv, and tinct. aconiti rad. were given after meals. The aconite was gradually increased in quantity until, on the nineteenth day, she was taking seventeen drops four times a day. Elixir of iron, quinine, and strychnia, one teaspoonful thrice daily, was then added. The early doses of aconite, of two and three drops each, produced some tingling of the fingers and tongue, with numbness of the right arm and hand; the larger doses did not produce any more pronounced symptoms. The pulse varied in frequency from 67 to 82 per minute. Hydrochlorate of cocaine in four-per-cent. solution was applied two or three times a day to the painful spot on the right side of the extremity of the tongue; this gave relief for about twenty or thirty minutes. Failing to control the pain notwithstanding this persistent use of aconite, on December 1 fluid extract of gelsemium was used; four drops were given thrice daily, and the dose gradually increased until the physiological effect was produced. Hunyadi water was given occasionally, and massage of the spine was adopted. On the following morning a blister was applied to the right temporal and zygomatic region; a cold-water dressing containing half a grain of morphine was used. The blister had caused considerable local irritation by evening, and the pain in the face and tongue was relieved; the pain, however, recurred the next day, with dull aching in the forehead and across the eyes.

Lunar caustic was applied to the right side of the tip of the tongue on December 4; the area cauterized was about half an inch square. Electricity was suspended for three days. Subsequently applications of nitric acid were made to the tongue.

Swimming of the forehead, dimness of vision, and drowsiness accompanied the increasing doses of gelsemium. The dose of gelsemium was increased for twenty days, until the patient took thirty-six drops of the fluid extract three times a day; there were then dizziness, headache, some drooping of the eyelids, but no pronounced symptoms or apparent benefit from the medication.

I have prepared a chart from the careful daily records taken by Miss Kenealy, the chief nurse of the Training School, showing for each day the treatment, the pulse, respiration and temperature, and subjective symptoms.

At the end of seven weeks the patient was discharged, although still suffering at intervals from pain in her tongue. The facial pain was very much less than when she applied for treatment. The use of nitric acid on the painful spot in the tongue was advised.

At the end of six months the patient was still suffering with neuralgia, but not so severely as at first.

Mrs. E. H. H., æt. 64. No hereditary nervous disease. She was delicate in early life, and as a child had chills and fever for three years, but never had any serious illness. Thirty years ago she began to have pain in the infraorbital, and then in the supraorbital, region, darting and of intermittent character. It was serious enough to confine her to bed. The attacks were influenced by weather and exposure. Sometimes attacks came on every few days; sometimes not once in three or four months. Exposure to draughts, to cold, or to wind would bring them on. Warmth would relieve the pain. Liniments failed; warmth always gave the most relief. Duration of attacks one to seven days, or even a month. For seventeen years she had noticed a singular sensation in the right nostril, as though pierced by a dozen needles. Pain extended to the cheek and under the eye. The patient for four years had a severe attack lasting the whole month of February. It would take an entire month to recover from its effects.

November 21, 1885, the pain was constant and more or less severe, both diurnal and nocturnal, and she was kept awake a great deal at night. Teeth had been extracted from both jaws before applying for treatment.

A general tonic treatment, consisting of massage, lactate of iron, cod-liver oil, and malt, was adopted, and galvanism was applied gently to the side of the face. Blister-

ing, morphine, quinine, arseniate of iron, and bromide of lithium were applied in succession, without relief.

Finally, the infraorbital nerve was exsected by Drs. Hunt and Morton, a small portion of the floor of the orbit being also removed. The patient suffered a good deal of pain in the same spot as before; this, however, subsided to a certain extent, and two weeks after the operation she returned to her home in Maryland. While not altogether free from neuralgic pain, she considered herself much more comfortable than before and greatly improved in general health. Nine months later she was reported to be in good health, with little or no neuralgia.

In a case of painless spasm of the face, Dr. W. W. Keen has recently operated on a patient at the request of Dr. Wharton Sinkler. The patient had twice been paralyzed. Five years ago the right eyelids began to twitch, and in six months the whole face and the platysma were incessantly in spasm, which was increased by mental or muscular effort; later this was accompanied with constant pain. In June, 1884, the right infraorbital nerve had been resected, with partial relief for only six weeks. Not long after this the twitching extended to the right side of the body and to the leg.

April 2, 1886, Dr. Keen laid bare the trunk of the nerve, using an electric current to facilitate its discovery. The nerve was then stretched; the force used was just short of enough to lift the head. Total paralysis of the face followed, with relief not only of the spasm of the face and neck, but also of that of the side and leg.

Stretching of the facial nerve for cramp had been performed by Baum and Schüssler, in 1878, Eulenberg, Godlee, Hahn, and others.

In Eulenberg's case, stretching the nerve was resorted to after a neurotomy of the supraorbital had failed; a tolerably severe paralysis resulted, lasting several weeks, but finally disappeared. In Godlee's case, twenty-eight months after the stretching the favorable result remained. In Hahn's case there were spasms over the whole right side of the face; after the operation, which did not induce any paralysis, there was only partial benefit. Two years after the operation the cramps persisted.

In 1880 Langenbeck stretched the temporo-orbital division of the left facial nerve and also a branch going to the zygomatic muscles. After twelve days the eye remained wide open, paralyzed; the angle of the mouth drooped. Two months later paresis of the left side of the face was still apparent; return of spasm. After four months the spasm was as severe as ever, and the paresis was apparent. The patient thought the paralysis the lesser evil of the two.

In a case of Godlee's in which there was painful spasm of both sides of the face, the left facial was stretched; paralysis followed. Four months later the right nerve was stretched. Several months after this the paralysis had disappeared, and the condition was as bad as before the operations.

In Putnam's two cases the results were not encouraging.

In a case of Southam's in 1881, the paralysis vanished in sixteen weeks; two and a half years later the good result was still apparent.

Dr. Zesa's summary of nineteen cases gave permanent good results in three, doubtful in two, considerable improvement in four, failure in ten. In ten cases temporary benefit followed the operation.

TRANSLATIONS.

Septicæmia of Rabbits.—At a recent meeting of the Paris Biological Society, M. G. Daremberg made the following statement concerning septicæmia in rabbits. This disease is produced by the inoculation of tuberculous matter (lungs, lymphatic ganglia) taken from dead bodies in the heat of summer, when there is slight putrefaction. Rabbits thus inoculated die after an interval of twenty-four to forty hours. Septicæmia is inoculable by means of subcutaneous, peritoneal, or intravenous injections, and also by trephining. Some hours before death the animal loses all desire for food, is in a panting condition, and is depressed; it is attacked by diarrhœa and convulsions, it cries out and drags itself painfully along between the convulsions, is paralyzed in one or more of its limbs; sputum mixed with blood issues from the nostrils and mouth. The animal is rarely struck down without exhibiting the preceding symptoms.

Necropsy reveals a sero-sanguineous infiltration in the areolar and connective tissues, round about the spot where the

inoculation was practised; ecchymoses; slight capillary hemorrhage on the surface of the intestines; areas of pulmonary apoplexy; hepatic infarctions; the spleen enlarged and black; occasionally serous or fibrinous effusions in the peritoneum and pleura; large clots dispersed about, but more especially in the sinuses of the dura mater and pia mater; occasionally slight meningeal hemorrhage, or in some cases encephalic and medullary meningitis.

These clinical and anatomo-pathological symptoms are in accordance with those described by Koch in cases of experimental septicæmia of rabbits; with those described by M. Charrin in cases of septicæmia produced through deteriorated blood in charbon; and with those by M. Pasteur in cases of disease inoculated by means of the microbe of saliva.

M. Daremberg states that the spinal marrow from his rabbits, whether fresh or dried during twenty days, causes death in rabbits at the end of twenty-four to forty hours. From the twentieth to the twenty-fifth day of desiccation the toxic properties diminish in strength, and the medulla only kills the animal after three or five days have elapsed. When the twenty-fifth day of desiccation is reached, the medulla does not generally kill the animals, but they are ill for two or three days (loss of appetite, depression). It was observed that in two cases the caudal extremity of the spinal marrow, after only eighteen days of desiccation, did not kill the animals. After ten transmissions from one rabbit to another, the medulla kills animals in five hours; at this juncture the disease becomes epidemic and kills nearly all the animals in close vicinity. A medulla dried in oxygen kills rabbits twice as rapidly as a medulla dried in the open air. Air at 55° Cent. (131° Fahr.), nitrogen, carbonic acid, and mercury vapors at 15° Cent., and at 55° Cent. (131° Fahr.), the vapor of osmic and cyanhydric acids, of pyridine, of iodine, of ethyl or amyl, of benzine, of turpentine, of sulphur, of carbon, of thymol, paraldehyde, methylated spirits, acetic ether, do not diminish the toxic properties of the medulla. Iodoform, phenol, and ammonia vapors delay the death of the animal one or two days. Vapors of chloral, chloroform, aldehyde, amylic alcohol, sulphuric ether, sulphurous acid, and sulphuric anhydride destroy all toxic influence in the medullas when they are allowed to dry in an atmosphere impregnated with these substances during four or five days. The same result is obtained by means of vapors of nitrous or of those of chlorhydric acid, which reduce the medullas to a pulp.

The blood and all the organs of animals that have died from this infectious disease contain an ovoid micrococcus, which may be cultivated in veal-broth and in gelatin. The latter is not liquefied. The micrococci are occasionally dispersed in small rows or in zoögleic clusters, rarely in twos or fours. But these conditions are not constant, and the successive cultivations in broth and gelatin present sometimes one aspect, sometimes another, and often a variety of aspects; the toxic action of this micro-organism is always the same, and is equal to the fresh medullas. These cultivations preserve their virulence at 55° Cent. (131° Fahr.). Towards the seventeenth day they become less toxic, and only cause death in four or five days, and in some cases are inert.

The second cultivations are less virulent than the first; either coagulates milk. These properties prove the analogy between this micrococcus and that described by M. Pasteur, of which the first cultivations die in fifteen days, and the successive ones gradually fall away. They differ from the properties described by M. Charrin, of which the cultivations die at 45° Cent. (113° Fahr.), and of which the second cultivations are as virulent as the first. M. Daremberg has attempted the Pasteur method of successive inoculation, but without positive results. An absolute method of protective inoculation for septicæmia has yet to be discovered.

Residue of the Ferments. — MM. Gayon and Dupetit, in a communication to the Academy of Sciences, point out a new means of preventing secondary fermentation in industrial alcoholic fermentations. It is well known that such products are rarely pure. It has often been tried to prevent the development of ferments, other than that of yeast, by adding to the must certain antiseptic substances. The addition of tannin was found to prevent the development of these secondary ferments, with the exception of the mycoderma aceti. On the other hand, the salts of bismuth completely prevent the latter variety of fermentation.

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EDITORIAL.

THE COSMOPOLITAN CHARACTER OF MODERN SURGERY.

THE Second French Congress of Surgery was opened with a masterly address by the President, Professor Ollier, of Lyons, in which, after felicitating his hearers upon the institution and prospects of the Congress, he urged upon them the importance of looking beyond the borders of their own country for instruction wherever it could be gained, and not resting in a self-complacent exclusiveness.

"Nothing," he says, "which occurs in the surgical world ought to be foreign to us. Patriotism does not consist in admiring one's self and closing the eyes to the advances of one's rivals; but in becoming informed in regard to these advances, in utilizing them, and in attempting to surpass them." This recommendation, however, is not so much needed now as it once was, as indeed he admits. The affected superiority to other nations which once led French scientific men to ignore them and their work is, happily, disappearing, and France now shows a creditable appreciation of what is going on elsewhere, getting and giving with the freedom which should characterize the republic of letters. Examples of this are to be seen in the adoption—as yet too imperfect—of the principles of asepsis in surgery, which have now gained a fair foothold in France; also in the promulgation abroad of such doctrines as those of Ollier himself in regard to the nature and treatment of diseases of the bones, or the more recent revival of the suprapubic operation of lithotomy in England, which is directly attributable to what Sir Henry Thompson very recently learned from Professor Guyon in Paris.

Ollier touched upon other interesting topics, such as the improvement of hospital facilities in France, the improvement in their outfit and *personnel.* In regard to the latter point he made some remarks which show that he has some very decided notions as to the proper way in which to increase the success and reputation of medical centres. The rank of surgery in any country, he says, is determined chiefly by two things: the worth of those who fill its ranks and the opportunity afforded them to accomplish what they are fitted for. In France he finds that there is at present more ability than opportunity. Capable men either have no fair chance to work, or their talents are even smothered by public institutions. At present, he says, there is a veritable plethora of talented young men for whom it is almost impossible to provide opportunities for work. One might suppose that he himself was one of these young men, so impassionedly does he plead that they shall be given the opportunity to act for themselves, to exercise their talents. He depicts their patience, then their weariness in waiting, and, finally, the diminished zeal with which their work is done when at length the coveted opportunity is secured.

This state of affairs involves a great waste of power and a serious detriment to surgery in France. It does not exist everywhere, however. Even in France there are cities in which the young surgeons are carefully and successfully fostered, and in which these have come to shed lustre upon the institutions with which they were connected. Lyons, we might say, and Ollier in Lyons, could not well be mentioned as examples by the speaker; but bright examples they are. Likewise—as the speaker did say—the large number of small universities in Germany has favored the formation of surgical centres in which many

men have attained success and celebrity at an age at which in France many others still await an opportunity to do something. Ollier would incite his countrymen to develop as much as possible their own talent, and to encourage those aspiring and talented young men who are the hope of the future in France.

This argument has a wider application than was in the speaker's mind when he made it. The hope of any country is in its young men. America is not deficient in such as are deserving of encouragement, nor, we believe, are the older men with established reputations unaware of this fact or unwilling to assist them to mount in turn to the heights which they already tread. Even now, in the field of medicine and of general and special surgery, there are a number of young men in America who owe it partly to the encouragement and assistance of those older than themselves that they have attained positions from which they may hope, if industrious and conscientious, to step in due time into the first rank. To them, and to those who would be of their number, the lesson of the hour is, not to be impatient; to those already in influential positions the appeal of Ollier may serve as a reminder that everywhere "there is that scattereth and yet increaseth, and there is that withholdeth more than is meet, and it tendeth to poverty."

In concluding his address, Professor Ollier very appropriately defined and defended a proper specialism in surgery, illustrating the advantage of the cultivation of certain special lines of practice by broad-minded and broadly-educated men by citing ophthalmology and gynæcology; to which we may add general abdominal surgery, brain-surgery, and his own admirable work in the field of diseases of the bones and joints.

In conclusion, we would join our congratulations to those of his hearers upon this excellent and suggestive address, and express our best wishes for the future of the French Congress of Surgery.

FALLACIES IN THE COPPER TESTS FOR GLYCOSURIA.

PROBABLY most physicians in testing urine to determine the presence of sugar use either Trommer's or Fehling's test, both on account of their convenience of application and of their generally supposed trustworthiness. The specific-gravity test is frequently altogether omitted, although those who have had much experience in urinalysis place a very high value upon the indications derived from the urinometer.

In a recent note in the *Boston Medical and Surgical Journal*, Dr. O. W. Sherwin states that on testing a specimen of urine with Fehling's solution the copper was reduced as with sugar. As the specific gravity of the urine was only 1015, he was induced to make further inquiry, and discovered that a small quantity of chloral hydrate had been added to the urine for preservation. He also found that the urine of persons to whom chloral had been given reacted to Fehling's solution in a similar manner to diabetic urine. The fact that the urine of persons taking chloral will reduce the copper from a test-solution has long been known. Certain other medicinal substances —as turpentine, chloroform, benzoic acid, salicylic acid, camphor, copaiba, and cubebs—will produce a similar result, if the test is made in the usual manner by heating the urine. From inquiries made recently we are forced to believe that many practitioners are unfamiliar with the above-named sources of error.

Dr. Frank Donaldson, in a paper published in the *Baltimore Underwriter* for January 5, 1887, gives the history of a man, aged 37 years, who applied for life-insurance. The personal and family history of the applicant were excellent. The urine was of a dark straw color, spe-

cific gravity 1024, acid, moderate in quantity, and free from albumen. Fehling's test showed a heavy reduction of cuprous oxide. Although there was no clinical evidence of diabetes, the application was rejected. The same fate met the gentleman when he applied to other companies. He was always turned down on the same ground by the medical examiners. A prominent medical director of an insurance company in New York told him "he had enough sugar in his urine to float a ship." These unfavorable reports induced the gentleman to place himself under Dr. Donaldson's care for treatment. For months he was "subjected to all kinds of treatment,—hygienic, dietetic, and therapeutical,"—with no change in the behavior of the urine towards the copper-solution. His health continued good, and he increased in weight and girth. Professor Tyson was called in consultation, and upon examination of the urine concluded that the reducing substance was not glucose. Professor Wormley coincided in this opinion.

Dr. Brune, of Baltimore, made an elaborate study of the urine of the same person, and found that the copper tests gave reactions similar to sugar, but that the fermentation-test and the polariscope proved the absence of glucose. Most of the gentlemen who have studied this case have come to the conclusion that the urine contains an acid heretofore unknown. The nature of this substance is now under investigation both by Dr. Brune, who is pursuing his researches at Johns Hopkins University, and by Dr. John Marshall, at the laboratory of the University of Pennsylvania, under the direction of Professor Wormley. Dr. Marshall believes the substance to be an acid not recognized heretofore.

These cases serve to point out the great caution necessary in giving an opinion based upon a defective method of examination. The low specific gravity of the urine, the small quantity passed, and the absence of all clinical evidences of diabetes, should have led to an examination of the urine with the polariscope, or to the use of the fermentation-test, before hazarding a decision.

Circulars of the State Board of Health.—Dr. Lee, the Secretary of the State Board of Health of Pennsylvania, has issued a series of circulars containing valuable advice and information with regard to contagious and infectious diseases, and especially diphtheria, scarlatina, and typhoid fever. The circulars also contain suggestions of great practical value as to prophylaxis and the preparation and management of disinfectants.

LEADING ARTICLES.

NEURASTHENIA.

In condensing the phrase "nervous asthenia"—first suggested by Dr. Fordyce Barker—into the single word *neurasthenia*, the late Dr. George M. Beard enriched medical nomenclature by an elementary title accurately designating the condition to which it is applied,—*i.e.*, "want of strength in the nerve."*

Neurasthenia is generally classed among the so-called "functional" affections of the nervous system. Beard, however, in his original paper upon the subject distinctly stated his conviction that there are definite structural alterations, although perhaps undetectable, in the nervous system, underlying the functional disorders which furnish the varied manifestations of neurasthenia. That this neurasthenic condition may eventuate in various grave or even fatal disorders is now becoming more generally recognized, and the views expressed by Beard nearly twenty years ago are daily obtaining more favorable consideration.

Arndt† has proposed a new theory of the ultimate or underlying cause of neurasthenia. According to his theory, neurasthenia is in all cases due to a defective nervous organization, the nervous supply

* Beard on "Neurasthenia, or Nervous Exhaustion." *Boston Medical and Surgical Journal*, April 29, 1869.
† Die Neurasthenie, Wien, 1886.

being inadequate to perform the functions demanded by the physical organism of which it is respectively a part. In some instances the disproportion between nervous and non-nervous tissue may be so slight that no disorder results until excessive demands are made upon the nervous power, or until some grave interference with general nutrition—*i.e.*, some depressing disease, injury, or other cause of malassimilation—makes the inequality more prominent. These are the cases which usually manifest themselves decidedly for the first time in advanced life in the broken-down business and professional man, bankrupt of nerve-force, of which this country has so large a proportion, and which seemed to justify Beard's designation of neurasthenia as a distinctively American disease. So long as food is well digested, the blood properly oxygenated, the products of retrograde metamorphosis removed from the system by normally-acting emunctories, and the brain allowed intervals of recuperating rest, the individual does not become neurasthenic. But when any one or more of these conditions fail of attainment, the shortcomings of the defective nervous organization become apparent after a shorter or longer interval.

If, on the other hand, the original disproportion between the nervous system and the rest of the organism is great, the evidences of neurasthenia are early manifested,—either in infancy, in childhood, at puberty, or during adolescence.

The trivial importance attached to neurasthenia by the majority of general practitioners often results in serious harm to the afflicted individuals. The diagnoses of hysteria, hypochondria, or syphilophobia, so frequently heard in our clinical amphitheatres, are responsible for much of the flippancy with which many of these heavily-burdened patients are treated. Lightly to accuse a woman of being "hysterical" or a man of being "hipped" may often be the gravest injustice, attaching, as it does, a stigma to the patient which may lead to permanent valetudinarianism or even to self-destruction. Dr. Emmet has shown, by his brilliant clinical studies upon the consequences of neglect of certain lacerations of the cervix uteri, how many cases of so-called hysteria are dependent upon a purely physical condition of the nerves involved in the laceration. In the light of present knowledge, the nervous symptoms of laceration of the cervix uteri must be considered as expressions of the lack of nerve-power.

The manifestations of neurasthenia, diverse as they are in causation, are no less frequent than bewildering in their multiformity. Cases now and then occur characterized by general indisposition, vague nerve-, muscle-, or bone-pains, loss of appetite, sleeplessness, depression of spirits, frequent attacks of sick headache, lack of the power of sustained intellectual application, and similar symptoms not referable to any special organ or apparatus. In other cases the languid or semi-paretic condition is replaced by nervous exaltation or irascibility. In fact, both conditions may characterize the same case at different times.

These cases might with propriety be called cerebro-spinal neurasthenia. They are exceedingly troublesome to manage, and in many instances terminate in insanity or structural disease of the spinal cord. The gradual change from soundness to unsoundness of cerebral and spinal functions in these cases is well described by Blandford* and Arndt.†

The most marked forms of cerebro-spinal neurasthenia result from extreme nervous exhaustion from any cause. Intense intellectual application in persons with a neurasthenic predisposition—in other words, with a primarily defective nervous organization—frequently determines an outbreak. Many of the leading writers, artists, and public men of the day belong to this class. Among the more prominent neurasthenics of the present century were Walter Savage Landor, Carlyle, Dante Gabriel Rossetti, Richard Wagner, and Victor Hugo. In this country two of the most distinguished women writers have recently suffered to an extreme degree from cerebro-spinal neurasthenia.

Many of these cases can be immediately traced to some traumatism, an especially large number being the consequence of railroad-injuries. Mr. Erichsen and Dr. Beard have both described a number of such cases in detail. In the sad case of the American poet John G. Saxe, now a confirmed victim to melancholia, the origin of the disease was a spinal concussion received in a railway-accident. The methods of studying the brain recently developed by M. Luys will doubtless en-

* "Insanity and its Treatment," Lecture III.
† Loc. cit., pp. 171–202.

large our knowledge of the more intimate nature of the processes concerned in the evolution of morbid psychic and motor manifestations resulting from traumatism.

Neurasthenia as effect, and probably in a measure also as cause, of local alterations of nutrition, is extremely frequent. The manifold reflex symptoms of disturbances in the genito-urinary system are simply manifestations of neurasthenia. Lallemand, Acton, Beard, S. W. Gross, Moreau, Howe, Hammond, Von Krafft-Ebing, Tarnowsky, Ultzmann, and, above all, Otis, have shown the very intimate connection between genito-urinary diseases in the male and nervous exhaustion. Not merely did the profound original researches of Otis point out the connection between urethral stricture and many nervous symptoms previously misunderstood, but his practical ingenuity gave to the profession a ready means of cure. Dr. Sayre has shown the etiological relations of adherent prepuce to epileptoid conditions, and has likewise indicated the methods of relief. In the writer's experience, an elongated and phimotic prepuce has not rarely seemed to be the cause of the train of symptoms comprised under the designation spermatorrhœa. At all events, the simple dorsal division of the prepuce has seldom failed to check promptly the frequent involuntary emissions and render the nervous symptoms amenable to appropriate treatment. In one marked case of pathophobia, under treatment two years ago, the symptoms seemed to be attributable to a frequently-recurring herpes preputialis. At all events, improvement in the psychic condition progressed *pari passu* with relief of the local disorder.

The female sex is probably subject to neurasthenia from sexual disorders to a still greater degree than the male. Emmet's epoch-marking investigations into the consequences of laceration of the cervix uteri show most conclusively the powerful influence of local nerve-lesions in the production of neurasthenia. Trustworthy authorities have stated that mental alienation may result from a continuance of marked neurasthenic symptoms. During a term of service in the Maryland Woman's Hospital and in many cases in private practice the writer has had opportunities to observe the rapid disappearance of the symptoms of nervous depression after appropriate local treatment.

Again, the manifold neurotic symptoms which attend attacks of chronic oöphoritis or pelvic peritonitis and cellulitis, and which not rarely eventuate in insanity, are evidences of neurasthenia depending upon local pathological conditions. A recent clinical contribution by Moritz Meyer* calls attention to the frequency with which certain neuroses are dependent upon local neuritic affections, and points out the appropriate remedy.

Mr. H. B. Hewetson† has also reported a number of cases of general neuroses due to eye-diseases. It is, of course, not pretended that all the cases of general neurotic disorder depending upon local affections are properly called neurasthenia; but the relation is much more frequent than is generally believed.

On the other hand, a neurotic or neurasthenic constitution may be responsible for the intensification, if not also for the origin, of the local disease. This is unquestionable in certain of the disorders of the genito-urinary apparatus in both sexes. Involuntary seminal emissions and functional impotence are notoriously frequent consequences of a lack of nerve-force. In women, ovarian irritability, amenorrhœa, and dysmenorrhœa can often be referred to the same source.

It looks very improbable at first sight that new-growths, especially cancer, should be rationally attributable to the influence of nervous depression. However, so acute an observer as Sir James Paget seems to incline to the view that such a relation may possibly exist. Snow‡ states that of one hundred and forty cases of mammary cancer analyzed by him, "one hundred and three gave an account of previous mental trouble, hard work, or other debilitating agency." Of one hundred and eighty-seven cases of uterine cancer, nearly one-half (ninety-one) gave a similar history. A number of detailed histories given by this author seem to bear out the claim that mental depression (neurasthenia) is a frequent cause of cancer. Arndt§ is positive that neurasthenia is an etiological forerunner of cancer, and relates three illustrative cases. Willard Parker‖ states that "there are the strongest physio-

* Berliner Klin. Wochenschrift, October 25, 1886.
† London Lancet, November 27, 1886.
‡ "Clinical Notes on Cancer," London, 1883, p. 30.
§ Die Neurasthenie, Wien, 1886, pp. 202–208.
‖ "On Cancer," New York, 1885, pp. 40–43 and 58.

logical reasons for believing that great mental depression, particularly grief, induces a predisposition to such a disease as cancer, or becomes an exciting cause under circumstances where the disease had already been acquired." In over one-fourth of Parker's cases of cancer of the breast (one hundred and six out of three hundred and ninety-seven), nervous depression or conditions directly leading to it are set down as forerunners of the disease.

Cooke* points out the fact that in women cancer occurs on an average ten years earlier than in men, coinciding in the former sex with the menopause, and in the latter with the period of greatest exhaustion of the nervous system. He remarks that "the women of fifty are very generally more worn and wasted than the men of seventy." It is between the fiftieth and sixtieth years that neurasthenia from professional overwork is most frequent. The merchant, official, or professional man is reminded that he cannot do the same amount of work at fifty that he could at thirty: in the words of a distinguished Philadelphia teacher of the last generation, "he cannot get a three-minute pace out of a four-minute horse."

Jonathan Hutchinson† says upon the same point, "We shall probably be not far from the truth if we admit senility of tissues, local or general, to be the one predisposing cause of cancer with which we are acquainted. . . . A little step further may next be taken, in the belief that everything which hastens senility, either local or general, will increase the predisposing influence, and *in this category may be placed anxiety, distress, overwork, and excesses of all kinds. It is highly probable that under such conditions a state involving increased proneness to cancer may be induced,* and, further, *that if offsprings are produced after that state has been developed, they will inherit that tendency.*"

Parker, in commenting upon the unfriendly attitude of modern microscopical pathologists towards the theory that derangements of the nervous system may determine the origin of cancer, makes the wise observation that too close attention to the revelations of the microscope may obscure our view into the conditions underlying the visible changes. The question certainly deserves more unprejudiced study than it has heretofore received.

Disorders of the digestive system are intimately related to neurasthenic conditions. Even in persons with no demonstrable inherited nerve-weakness, any great depression of the assimilative organs results in a passing neurasthenia. Gastric or intestinal catarrhs, or disorders of the liver, or an overloaded condition of the large intestine,‡ if long continued, are nearly always accompanied by neurasthenia. Where there is an inherited neurasthenic constitution, the digestive troubles are doubtless sometimes the consequence of a foregoing nervous depression. Every practitioner sees such cases almost daily; but the relations between cause and effect often remain unrecognized. The sub-diaphragmatic self-consciousness of Carlyle was doubtless of this nature. The loss of digestive power, insomnia, mental irascibility, and unmanly treatment of his wife and friends, which characterized his later life, all point to an inherited neurasthenic predisposition. Some of these characteristics were still more pronounced in Walter Savage Landor.§

The frequency of the diagnosis of "nervous dyspepsia" is an indication that a tendency to attribute to the nervous system a share in the production of painful digestion is gaining ground. However, as Dr. Clifford Allbutt clearly pointed out in the Gulstonian Lectures for 1884,‖ what is so commonly termed nervous dyspepsia is not really dyspepsia or gastric disorder at all, but a manifestation of neurasthenia, curable only by appropriate treatment directed to the nervous system. Drs. S. Weir Mitchell¶ and Richard M. Hodges** have also pointedly called attention to the customary lack of accuracy in the diagnosis of these cases, and have given many judicious hints for their management.

GEORGE H. ROHÉ.

THE NEUROLOGICAL REVIEW.—On account of the impaired health of the editor, Professor J. S. Jewell, the *Review* will suspend publication for the present. The cordial sympathy of the profession is with Dr. Jewell, and it is hoped that he may soon be restored to health and vigor.

* "On Cancer," London, 1865.
† "The Pedigree of Disease," New York, 1885, p. 74.

‡ J. S. Jewell, in *Neurological Review*, vol. i. No. 4, p. 218 *et seq.*
§ "Landor." By Sidney Colvin. New York, 1881.
‖ "The Visceral Neuroses," Philadelphia, 1884.
¶ "Fat and Blood," and "Nervous Diseases of Women."
** Boston Medical and Surgical Journal, July 10, 1884.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE report of the joint committee appointed by the Royal College of Physicians and the Royal College of Surgeons to consider the question of the desirability and practicability of obtaining power to grant degrees in medicine and surgery to persons who have passed the conjoint examinations of the two colleges has been presented and discussed by the governing bodies. The next step will probably be the presentation to the Crown of a petition for a charter. There are precedents in the history of several mediæval universities for the creation of a university with a single faculty: the University of Salerno, which only became extinct about a century ago, was for many generations the chief medical school in Europe, and it consisted of but one faculty; the University of Bologna at first had but one faculty, that of law; and even the University of Paris consisted originally of but one faculty, which was practically a theological faculty. The application for a charter will probably be opposed, overtly or covertly, by the University of London; the Association for Promoting a Teaching University for London will undoubtedly oppose, unless its guiding principle—the admission of representatives of the teachers in the medical schools to the governing body of the new university—is recognized. Whether these bodies have any legal right to oppose may be open to question; but there is no doubt that, before a charter is granted, the objections of existing bodies whose privileges might be injured by its grant are always listened to. The general opinion seems to be that the scheme of the two Royal Colleges may be modified, but that it will eventually succeed, and that a new university, to be called perhaps the University of Westminster, will come into existence within the next few years.

The police regulations directed against rabid dogs have been suspended in London, where they are supposed to have served their purpose; but various provincial towns have found it necessary to put similar rules in force. The British Hydrophobia Commission has not yet reported, but Professor Victor Horsley, the Secretary of the Commission, who has performed all the experiments, when speaking the other night to a paper read by Dr. Hime, of Bradford, at the Pathological Society, promised that he would shortly bring the result of his researches before that society. Dr. Hime's paper was founded on original researches made in Paris, and was chiefly directed to proving that the symptoms produced in rabbits after inoculation with the Pasteurian virus were constant and characteristic, and to rebutting the assertions made by Drs. Spitzka and Dolan with regard to the similarity of the symptoms to those following the intra-cranial injection of putrid or sterilized bouillon. The injection of virus is made into the arachnoid space, and the brain is not injured: one of the specimens shown by Dr. Hime on December 7 was a fresh preparation of the head of a rabbit inoculated in Pasteur's laboratory with rabid virus on December 4; when the skull-cap was removed, the brain was seen to be quite uninjured.

At the last meeting of the Royal Medical and Chirurgical Society, Mr. Savory read a paper founded on the examination of a series of specimens of ligature of the femoral artery for popliteal aneurism. His general conclusion from the study of a large number of cases and specimens was that, in the majority of cases of popliteal aneurism, it was more advisable to tie the popliteal artery than the femoral, and that the danger of rupture of the artery had been exaggerated. This is, of course, opposed to current teaching, as the fact that in none of the specimens examined was the artery found impervious throughout is opposed to current statements. The discussion went off on a side-track, for Mr. Bowlby was the only speaker who dealt with the question whether it is best to ligature low down; from the examination of many specimens he had ascertained that, as a rule, the condition of the artery immediately above the aneurism was rather better than its condition in Scarpa's triangle. The other speakers were chiefly occupied by the method of ligature, all expressing their preference for double ligature with division of the artery. Both these questions—the question of ligature near the sac and of double ligature—are examples of the extensive revisions of old *dicta* which the modern systems of antiseptic dressing have necessitated.

At the same meeting a paper by Mr. Treves was read on *hernia lateralis*, a condition to which he proposed to apply the term "Richter's hernia," a suggestion vigorously combated by Mr. Hulke. Questions of nomenclature are, no doubt, of but little importance, but since in the hernia in question a part only of the circumference of the gut is engaged and strangulated, the term hernia lateralis appears to be most appropriate, and better than the third suggested alternative, "partial enterocele." Mr. Treves described the symptoms as milder than in ordinary forms of strangulation, but Mr. Hulke had found them unusually acute: however this may be, it seems clear that, in some cases at any rate, the symptoms are not characteristic, inasmuch as Mr. Treves was able to quote examples where constipation was not complete, some even where diarrhœa was present, and had found that tympanitic distention was uncommon, and that vomiting was slighter, was rarely fæcal, and set in later than in cases of complete strangulation. Nevertheless, the mortality was high,—62.2

per cent.,—owing probably to the cases not being recognized.

The very good results obtained by the use of corrosive sublimate solutions in midwifery practice appear to be generally acknowledged. Dr. Boxall, who was resident medical officer to the Lying-In Hospital in York Road, Lambeth, during a period of transition, stated at the Obstetrical Society that the mortality decreased when permanganate solutions were replaced by carbolic acid, and that it fell still further when carbolic acid was replaced by sublimate solutions (one in two thousand); in the series the diminution amounted to thirty per cent. Dr. W. R. Dakin has collected cases which prove that even this valuable method of treatment must be used with discrimination; he reported ten cases of mercurial poisoning out of one hundred and sixty-five deliveries; one case ended in death. Dr. Matthews Duncan seems to have been so impressed by the liability to produce mercurialism by these injections that his practice is only to use the sublimate for occasional applications, and to use carbolic acid for the habitual antiseptic washings. Dr. Champneys, who was one of the physicians to the York Road Lying-In Hospital when the sublimate washings were introduced, and is strongly in favor of the routine use of such post-partum irrigations in hospitals, stated that in private practice he used them only for cases of operation; in such cases he washed out the vagina, and the uterus also if it had been entered by the hand, with corrosive sublimate (one in one thousand or two thousand). He left one of Ehrendorf's iodoform bougies in the uterus, and did not repeat the sublimate injections.

The Liverpool Medical Institution, on account "of the large and increasing number of cases of abdominal section in the Hospital for Women" in that city, appointed a committee to investigate "the grave questions of practice and ethics involved in the performance of these operations." The committee took ten months to accomplish their work, the delay being due partly to the illness of Dr. Imlach, who had performed most of the operations, and partly to a civil action brought against Dr. Imlach by one of his patients. The committee reported with regard to the operation of removal of the uterine appendages, that many of the patients operated on received distinct and probably permanent benefit; that to nearly an equal number the relief did not seem to have been of a decided or lasting character; and that some patients had been rendered worse. The committee insisted that the operation could not be judged on precisely the same grounds as other operations, for it considered that the removal of the organs characteristic of sex is and always will be viewed by the public and the profession with misgiving; it recommended that a consultation should always be held before performing the operation, and that the utmost pains should be taken to inform the patient, or in exceptional cases her relatives, of the nature and consequences of the operation. The impression generally left by the perusal of the report and Dr. Imlach's reply seems to have been that he has been wanting in judgment and in discrimination in the selection of cases, and that, on the whole, his colleagues of the Liverpool Medical Association have treated him with fairness.

Sir Andrew Clark has recently retired from the active staff of the London Hospital, where he has been senior physician for several years and a most active clinical teacher for many more. A committee has been formed to present him with a testimonial, and subscriptions are invited; it is intended to present him with his portrait, and at the same time to provide a replica to be placed in the library of the new college buildings. The response is certain to be liberal and hearty.

A committee has also been formed to present a testimonial to Dr. Edward Waters, of Chester, "in recognition of his earnest devotion through many years of self-sacrifice to the cause of internal medical reform." The Medical Act of 1886 is neither flawless nor final, still it is a step forward; it renders the threefold qualifications compulsory, and has established the right of the medical profession, as distinct from medical colleges, to be represented on the General Medical Council. In all that concerned this question Dr. Waters was the moving spirit in the counsels of the British Medical Association, and the general recognition of his public services in this matter combines with the high esteem in which he is held by those who have the advantage of knowing him personally to make the proposed testimonial generally popular.

Yet another testimonial has been proposed: at a meeting held in Dublin last week an influential committee was formed to raise a fund as a testimonial to Dr. Archibald Jacobs, of Dublin, who was an unsuccessful candidate at the recent election for direct representatives. Dr. Jacobs is the editor in Ireland of the *Medical Press and Circular*, and has worked hard in the interest of the general practitioner in Ireland, whose lot, always hard, is sometimes rendered almost intolerable by the exactions and parsimony of local boards.

Guy's Hospital is in great financial embarrassment; its revenues are chiefly derived from land, and the present agricultural depression has compelled the Governors to lower rents or to make at least temporary reductions; in all probability reductions now made, even though ostensibly temporary, will be practically permanent. A meeting was held this week in the Mansion House, under the presidency of the Lord Mayor, in order to attract public attention to the unfortunate position of the hospital. The Duke of Cam-

bridge stated that the annual income had fallen from forty-one thousand pounds to twenty-five thousand pounds, and that a third of the beds in the hospital were not in use. Cardinal Manning made a telling speech, strongly objecting to the scheme for placing the hospitals under governmental control, partly because he believed that the system worked badly in Paris,—it may be remembered that the religieuses have recently been expelled,—and partly because "he had *no* belief in mechanics, but a profound belief in the dynamic power of charity that had governed and civilized the world." The hospital asks for one hundred thousand pounds, and has already been promised seventeen thousand pounds. It is known that the income has been falling off for some years, and several small expedients for increasing the receipts have been tried; one of these is to "reserve" certain beds in the general wards for patients who could afford to pay a guinea a week; another is to charge out-patients threepence to defray part of the cost of their medicine: both expedients seem to be extremely unpopular with the profession in South London, and when Mr. Lushington, an ex-Indian official who some years ago was pitchforked into the important position of Treasurer of Guy's Hospital, mentioned this new application of the "advice-gratis-medicine-sixpence" principle at a meeting of the Metropolitan Provident Medical Association, his speech appears to have been brought to an abrupt termination by "signs of dissent," —*i.e.*, shouts of indignation. The reckless way in which persons who can well afford to pay are admitted without let or hinderance to the out-patient departments of most London and provincial hospitals is undoubtedly a crying scandal; but it is one for the committees of hospitals, rather than for the medical officers, to bring to an end.

DAWSON WILLIAMS.

PROCEEDINGS OF SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held December 16, 1886, the President, A. JACOBI, M.D., in the chair.

FERMENTATION, PUTREFACTION, AND SUPPURATION.

Dr. HERMAN KNAPP, in introducing this subject, said that he was led to do so from the fact that there was a wide difference of opinion among physicians regarding the part played by bacteria in the production of disease. He had heard a distinguished professor of Berlin express the opinion that the great majority of diseases, from the modern standpoint of science, seemed to be of bacterial origin, while a short time before a professor in one of the medical colleges of New York had said that bacteriology might be important from a scientific point of view, "but practically," he asked, "what does it signify? Six diseases." This being a great contrast of opinion, Dr. Knapp asked whether it was not possible that the one overestimated and the other underestimated the importance of the subject. With a view to answering this question, he had referred to the statistics of mortality in New York and other cities for the week ending August 21, 1886, as published in the *Boston Medical and Surgical Journal*. In New York, it was stated, the death-rate from infectious diseases was thirty-three per cent.: then it was stated that the mortality from consumption was sixteen per cent., from diphtheria and croup five, and, Dr. Knapp said, as these were undoubtedly of bacterial origin, it raised the percentage to fifty-four. Of diarrhœal affections he thought at least ninety per cent. were of bacterial origin, and in the statistics quoted the percentage of deaths from diarrhœal diseases was placed at twenty in New York and as high as thirty-five in some other cities. This would raise the percentage of deaths from bacterial diseases to seventy-five. But no account had yet been taken of the deaths from pneumonia, peritonitis, endocarditis, malaria, gonorrhœa, typhoid fever, skin-diseases, and surgical affections. Reckoning these at fifteen per cent., it brought the percentage of deaths from diseases of bacterial origin up to ninety. This outcome of the figures had struck him with surprise, and, unless he had made a great mistake, they showed that the professor of Berlin was correct.

Bacteriology had shown its principal fruits in the department of surgery. Why did surgery take the lead that it did? Because of antisepsis; and antisepsis was but the application of the three terms fermentation, putrefaction, and suppuration. Dr. Knapp had repeated the experiments of Schultze, Schwam, Helmholtz, and others, demonstrating that fermentable substances from which impure air or germs had been excluded would not ferment. It had been further established that fermentation consisted in the decomposition of the carbo-hydrates by the action of the yeast-plant.

The process of putrefaction was akin to that of fermentation, only the bacteria were different, and the putrescible substance was different from the fermentable; it contained carbo-hydrates, sulphur, and nitrogen. Were the processes of putrefaction and suppuration the same? Surgeons generally used the terms so promiscuously as to lead one to suppose that they were either identical in meaning or that suppuration was a sequence of putrefaction; yet there seemed to be an important difference between them. The strong resemblance to pus observable in the changes which took place in the frog's eye a few hours

after extirpation was referred to. The surgeon asserted that if germs were kept away from a wound suppuration would not take place.

The author then stated three interrogatory propositions:

1. Does mere traumatism produce suppuration?

2. Do foreign bodies produce suppuration?

3. Do chemical agents of any nature produce suppuration?

As bearing on the first question, he said that while in Berlin he performed on rabbits all the operations which the ophthalmologist was called upon to perform on man,—on one eye with clean instruments, on the other with contaminated instruments: the wounds produced with clean instruments always healed without suppuration, those produced by contaminated instruments always suppurated. He had performed operations upon the human subject in the rudest manner, but with perfectly clean instruments, and suppuration never followed. If a simple fracture ever suppurated, it was only when there was a focus of suppuration at some other point. He therefore concluded that mere traumatism was in no way capable of producing suppuration.

Were foreign bodies of themselves capable of producing suppuration? As bearing upon this question, Dr. Knapp exhibited rabbits in one eye of which he had inserted the end of a rusty hair-pin and allowed it to remain, and into the other the end of a rusty hair-pin brought to a glow: the first eye had in every case suppurated, in the second no suppuration had taken place.

As to the third question, many of the highest authorities had asserted that chemical agents would produce suppuration. But if this apparent exception was not shown to be invalid, then the germ-theory of suppuration could not be supported. The experiments of Straus and others, and those which Dr. Knapp himself had performed, showed that chemical agents would not produce suppuration when germs were rigorously excluded. Experiments with these agents, however, were not easy; they were especially difficult with croton oil, which was extremely irritating and unmanageable. Yet even of this substance Dr. Knapp had succeeded in injecting a drop into one eye of rabbits, avoiding the entrance of germs and the formation of pus, while in the other eye, treated without precautions against the entrance of germs, suppuration developed. The best method for carrying out this experiment was that of Straus, consisting in first cauterizing the skin of the animal where the injection was to be made, and sealing the puncture by the cautery immediately on withdrawing the needle. A special hypodermic needle was recommended. While signs of irritation were present in the eye in which croton oil was injected with precaution against the entrance of germs, there was no pus and no germs; the contrary was the case when the oil was injected without such precautions. He therefore thought the proposition that no chemical agent, however irritant, would produce suppuration was pretty well established.

In conclusion, he asked, What is suppuration? He thought that, as in the case of fermentation, the cause—the microbe—entered into the definition, it should also enter into the definition of suppuration. It was said that fermentation consisted in the splitting up of the hydro-carbonates by the aid of yeast-cells; that putrefaction was the splitting up of nitrogenous substances by the agency of microbes; and it had been shown that suppuration was likewise the splitting up of nitrogenous substances by the agency of bacteria. The substances acted upon and the agencies were the same in the process of putrefaction and that of suppuration, but we speak of the process as putrefactive when the substance is a dead material, and as suppurative when it concerns living material. So we might say that putrefaction is the splitting up of dead nitrogenous substance through the agency of bacteria, whilst suppuration is the splitting up of living nitrogenous substance through the agency of the same or similar bacteria. In this way the parallelism of the three processes—fermentation, putrefaction, and suppuration—was established.

Dr. Knapp showed different kinds of micrococci.

Dr. CHARLES HEITZMAN had examined the eye of one of the rabbits in which Dr. Knapp had injected croton oil with antiseptic precautions, and, while inflammatory changes were present, yet there was not a single microbe, and he left Dr. Knapp almost a convert to his views. That suppuration and inflammation were not identical terms had been recognized by surgeons for many years. But there were conditions which it was difficult to explain on the supposition of the presence of bacteria, as, for instance, an osteomyelitis with suppuration.

The annual meeting was held January 6, 1887, the President, A. JACOBI, M.D., in the chair.

Dr. JACOBI was re-elected President, and Dr. W. H. DRAPER was elected Vice-President.

THE ANTISEPTIC TREATMENT OF SUMMER DIARRHŒA.

Dr. L. E. HOLT read the scientific paper of the evening, and said that he would refer to the etiology and pathology of summer diarrhœa only as these might have a direct bearing upon the treatment. He would state at the outset that he did not ignore other methods of treatment than by drugs. The question concerned the best treatment for that vast number of cases which crowded our institutions summer after summer, for whom no change of fresh air was possible and only

limited and imperfect dietetic regulations were practicable.

One conclusion was forcing itself upon his mind,—namely, that, with the exception of the comparatively few cases of cholera infantum, nearly all cases of diarrhœa in children were dyspeptic in origin. Excessive heat during the summer and filthy surroundings causing fermentation and putrefactive changes in the food were factors which went to bring on dyspepsia; heat also impaired the power of digestion, by depressing nervous energy. It caused thirst by excessive perspiration, and led the child to take more food than the stomach could digest; heat also increased decomposition in streets and sewers, and in the filthy tenements the children breathed atmosphere charged with the germs of decomposition. But more than all else was the change it caused to take place in the food before it entered the stomach. Regarding a microbe as being the cause of summer diarrhœa there was lack of positive information.

The indications for treatment were grouped under four heads: 1, clear out the bowels; 2, stop decomposition; 3, restore healthy action in the intestine; 4, treat the consequential lesions.

The bowels should be as empty as possible in the first step of the treatment, and for the same reason that surgeons cleansed wounds before applying a dressing. Castor oil might be given to cause a movement of the bowels, and the large intestine might be washed out by a full injection of water,—one pint of water in a child under six months, and two pints in a child under two years. Let it be given slowly with a syringe, gently manipulating the abdomen. Many mild cases of summer diarrhœa could be cured by castor oil alone, provided proper diet was adopted; but in severe cases this resulted in temporary benefit only.

The third indication was met by antiseptics and attention to diet. Antiseptics should be administered in small doses frequently, and be easy to take. A nauseous mixture should never be given. His own experience had been in favor of salicylate of sodium. If there was much vomiting, no food whatever should be administered for ten to twenty-four hours. For thirst fresh water or barley-water might be given. If the child had been weaned it was better to withhold milk for a time altogether: peptonized milk was less likely to disagree than condensed milk or even fresh cow's milk, but even peptonized milk might bring on a relapse. A diet without milk might be given of such articles as wine-whey, chicken- and mutton-broth, the expressed juice from raw beef, etc.

The fourth indication was not easily met. It consisted mainly of follicular colitis. Astringents by the mouth were of little benefit. Of importance was careful attention to diet, also antiseptics which would check intestinal decomposition, and by thus stopping the source of the irritation remove the colitis. Then the whole large intestine should be washed out once a day with pure water of a temperature of 60° or 65° F. or with a weak antiseptic or astringent solution.

Regarding the indications for opium there was much controversy. Almost all drugs which had held their place in the treatment of summer diarrhœa during the past fifty years were now recognized as antiseptics, and he thought their value was not dependent upon their astringent influence, but upon their antiseptic properties.

Dr. Holt then gave an account of the introduction of creasote, oil of naphtha, salicin, salicylic acid, etc., in the treatment of diarrhœas. Yet it was wonderful to what extent chalk, opium, bismuth, etc., were still employed. The author spoke of the treatment adopted in summer diarrhœa at the different institutions in this city. About twenty-five thousand children were treated annually for diarrhœal diseases at these institutions. Bismuth was largely used in fourteen institutions; opium was an ingredient in nearly every compound prescription given; many physicians relied nearly altogether upon bismuth and opium; castor oil was used at six; castor oil and opium at three; chalk-mixture and vegetable astringents were largely used. Astringent injections, usually nitrate of silver, were used at three institutions. Other remedies were employed, such as ipecac, rhubarb, soda, etc.

In three hundred tabulated cases treated by the author some one of the following four methods was employed: 1, chalk-mixture, paregoric, and vegetable astringents; 2, the same, preceded by castor oil; 3, emulsion of castor oil with paregoric; 4, bismuth and Dover's powder, frequently but not always preceded by castor oil.

Of these three hundred cases one hundred and sixteen were cured, one hundred and seven improved, fifty-five unimproved, and twenty-two died. Had the children been returned and the treatment always carried out, he thought the cures would have risen to one hundred and fifty-one. Twenty-seven per cent. were improved, eighteen per cent. unimproved, and seven per cent. died. While these results were certainly not such as to be proud of, he ventured to say they were as good as those obtained by others by the same method of treatment. His own impression was that many drugs which were commonly regarded as of value would not stand the test of cold facts. The cases related received as good hygienic treatment as the surroundings would permit.

These unfavorable statistics had led Dr. Holt to try other methods of treatment. Of eighty-one cases treated by salicylate of sodium, allowing as before for failure to

carry out the treatment, the percentage of cases cured was eighty-four; improved, seven; unimproved, seven; deaths, about one. This was not an overestimate of the valuable results of treatment. Some of the most striking results occurred in cases of long standing. Out of six unimproved cases, three of the patients were brought to the dispensary only once; in another the mother probably failed to carry out the treatment. The single fatal case occurred in a very wasted child with the fourth attack that summer. The diarrhœa stopped after giving salicylate of sodium, but the vomiting continued, and it died two weeks later.

Forty-four cases were treated by naphthalin alone. Sixty-seven per cent. were cured, fifteen per cent. improved, and two per cent. died (one patient). In fifty-six per cent. of the cases the disease lasted four days or less; in thirty-six per cent., over a week.

Twenty-seven cases were treated by resorcin, but the results had not been as favorable as with salicylate of sodium or naphthalin.

Twenty-eight cases were treated by bichloride of mercury, fifty per cent. being cured, twenty-one per cent. improved, twenty-five per cent. unimproved, and three per cent. died. The cases treated by chloride of mercury were the only ones which were selected. The treatment was rarely preceded by a purgative, otherwise the results might have been better.

Salicylate of sodium was given in from one- to three-grain doses every two hours, according to the age, from three months to three years. In these doses the solution was tasteless, and could be given in food or drink. He had never seen it produce vomiting. Naphthalin, though possessing a disagreeable odor, was not disagreeable to the taste, and could be given for the ages mentioned in doses of one to five grains, and it might be taken with sugar of milk.

DISCUSSION.

Dr. WILCOX had employed naphthalin in thirty-two cases of diarrhœa, chiefly in adults, and he had come to feel as much confidence in its efficacy, under certain circumstances, as in mercury in the treatment of syphilis or quinine in the treatment of malarial affections. The most frequent cause of failure with naphthalin in the treatment of diarrhœa in adults was failure to administer it in sufficiently large doses. He gave sixty grains a day, and had gone as high as one hundred and twenty grains. He gave it in capsules with the oil of bergamot. Typical cases were related in which its use had resulted in cure of chronic diarrhœa of years' duration. He had also given it in two cases of typhoid fever, and thought that it acted as an antipyretic by disinfecting the intestinal tract.

Dr. ANDREW H. SMITH said it had often occurred to him that the best way of reaching cases of summer diarrhœa was to treat them antiseptically. He thought the success attending the use of many domestic remedies was due to their antiseptic qualities,—such remedies as the mints and essential oils. As far as his experience extended, it corresponded with that of the author.

Dr. JOHN C. PETERS said that some years ago he had spoken of summer diarrhœa as "a filth diarrhœa," and he thought the treatment of it on the basis of antisepsis was correct. The common mints were among the best antiseptics. The use of pure water would result in a cure in some cases, and it should be used in all.

Dr. R. VAN SANTVOORD had had considerable experience in the treatment of summer diarrhœas in inmates of the Randall's Island Hospital, and he thought the general conclusions of the author should be strongly emphasized,—viz., that a diarrhœa was primarily a result of indigestion, and that when a diarrhœa continued, and there existed inflammatory changes within the intestine, probably caused by putrefaction and fermentation, the indications were to render digestion what it should be by preventing such fermentative and putrefactive changes. With reference to the use of opium, he had been accustomed to employ it only when the diarrhœal passages were watery and frequent, and he employed it hypodermically, guarded by atropine. He regarded the effects of bismuth as antiseptic, and not mechanical; when he employed it he gave directions for taking it after each meal. He had recently employed free injections of some astringent solution to wash out the colon, and to remove the mucus which covered the membrane he combined with the injection some alkali; he had a general impression in favor of the method. Nothnagel's observations suggested the value of adding a little salt.

The PRESIDENT heartily agreed with what Dr. Holt had said regarding antiseptic treatment. Thirteen years ago he expressed in a paper the view that bismuth was an antifermentative. He thought it was impossible to relieve a severe attack of summer diarrhœa without stopping the ingestion of milk for a number of days. There were plenty of substitutes, and the one which he had used most was the raw white of egg mixed with some farinaceous substance, usually with barley-water. While raw beef was often beneficial, its use was attended with the danger of developing tape-worm.

Dr. G. L. PEABODY had during the last year come to look upon naphthalin as a very valuable addition to our remedies in the treatment of a variety of intestinal complaints. He was confident he had seen several cases of typhoid fever which had entered the hospital in the early stage of the disease apparently aborted by naphthalin. He gave sixty or eighty grains during the twenty-four

hours, in repeated doses. In a man who had diarrhœa for twenty-one years, with never fewer than seven movements a day, naphthalin was employed, and within ten days he was entirely cured. Other severe cases had been treated with this drug with marked results.

Dr. W. W. CARPENTER, as bearing on the antiseptic treatment of diarrhœas, said he had seen greater benefit from the regular use of old cider—a glassful three times a day—than from any other remedy, in patients who had contracted the diarrhœa when in the war of the rebellion. He had also seen chronic cases of diarrhœa—those dysenteric in character, and also some of the tubercular variety—greatly benefited or cured by salicin.

Dr. HOLT closed the discussion, and said that Dr. Caldwell had used the salicylate of sodium in the diarrhœa of phthisis, which resembled the diarrhœa of children, obtaining uniformly good results.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, DECEMBER 27, 1886.

The President, LAWRENCE JOHNSON, M.D., in the chair.

THE TREATMENT OF HERNIA BY SUBCUTANEOUS INJECTION.

DR. W. DE GARMO, the author of the paper, said that the year 1877 had marked an era in the treatment of hernia, owing to the publication of Heaton's method, which had been practised, but kept a secret, by Heaton since 1843. The object of methods of treatment prior to that time had been the destruction of the hernial sac, but Heaton made no attempt to do this. The object in injecting his fluid was not to produce inflammation; it was to fortify the fibrous tissue surrounding the canal so that protrusion would not recur.

Dr. De Garmo had operated by Heaton's method during the past seven years in over one hundred cases, furnishing abundant evidence of its value and its freedom from danger. The failures with it in the hands of some he attributed to the erroneous method of operating and the want of proper after-treatment. For instance: in invaginating the scrotum with the finger introduced into the canal, unless proper precaution was taken, the fluid would be injected into the base of the scrotum; the fluid was not brought in contact with the proper tissues; it was sometimes allowed to return in the track of the needle. Some surgeons had allowed their patients to go without a support from the moment of rising from the bed at the end of a week or ten days, and some had even asked them to cough or strain, in order to test the effects of the operation. It was needless to say that the hernia would return in all such cases. The after-management is as important as the manner of operating. The patient, after being confined to bed for seven or ten days, or even fourteen days in severe cases, should, on rising, wear a truss. But too firm pressure should not be made, as it tended to weaken the tissues which it was desired to strengthen. In March last he called attention to a modification of Heaton's method for patients who were unable to remain abed after the injection. It consisted in repeated injections of a small amount of the fluid, the patient wearing a truss and continuing at his business. The operation, in his experience, had resulted in cure in forty-five per cent., and the percentage of cures would reach fifty or seventy-five per cent. in selected cases. Benefit always resulted, even in the worst cases, the patient being enabled to retain the hernia by the aid of a truss, which he had before been unable to do. Children who had not been cured by an instrument could always be cured by Heaton's method. Dr. De Garmo was not disposed to change from Heaton's fluid, which consisted of fourteen grains of the solid extract of white-oak bark to the ounce of the fluid extract, rubbed up together.

Dr. R. F. WEIR had done Heaton's operation in about seventy or eighty cases, and his cures had been nearer one-third than one-half.

A CLINICAL STUDY OF NEURALGIAS IN NEW YORK.

Dr. DANA made two subdivisions of his paper: 1. Had the neuralgias of New York the same physiognomy as those of Europe? 2. The reflex origin of neuralgias and neuralgic pains.

True idiopathic neuralgia was a rare disease, not constituting over two or three per cent. of all cases of nervous disorders. Sympathetic neuralgia was frequent. The neuralgias in New York which formed the basis of his studies occurred in 250 of his own patients and in 252 seen by other physicians in private or dispensary practice: trigeminal neuralgia constituting 43 per cent.; sciatic, 23 per cent.; intercostal, 13; cervico-occipital, 4.5; lumbo-abdominal, 2.5; articular, 2 per cent. One-third of all the cases occurred before the twenty-fifth year, and two-thirds before the thirty-fifth year; the ratio of males to females was 3 to 5; the greatest number of cases occurred in the winter, the fewest in spring. The greater proportion of neuralgias in this country occurring in early life he regarded as showing a less number of the degenerative and violent types.

As to neuralgia of special nerves, the branches of the fifth pair were affected the most frequently: out of a hundred cases, the supra-orbital was affected in thirty-three per

cent; there was migraine in thirty-one per cent., mixed forms in seventeen per cent., infra-maxillary in five per cent., tic-douloureux in five per cent., and infra-orbital in three per cent. Of these cases, about two out of three were females. There was an increase of trigeminal neuralgias between the thirty-fifth and forty-fifth years. In all neuralgias, the left side was affected in about three out of five cases. Most cases of migraine and supra-orbital neuralgia were worse in the morning, especially those curable by quinine and arsenic. As to causes, child-bearing, anæmia, and exposure were common. The nervous temperament was often present. The cases of migraine in which the face was flushed red were rare. In nearly all cases it was a family disease, alternating at times with other neuroses. Almost all responded well to treatment. He had not been able to convince himself of any connection between the cases and nasal or pharyngeal irritation. One case showed a relation to trouble with the eye. He did not regard migraine as due to an affection of the vaso-motor system: it belonged to trigeminal neuralgias.

Much had been said about the reflex origin of intercostal neuralgias, but in his experience only a small proportion of the cases were of reflex origin. Probably one-half the pains in the left side were myalgic. Neuralgic, myalgic, and neuro-myalgic varieties should be recognized in the treatment.

Reflex influence in the production of neuralgias had probably become exaggerated in the minds of physicians, but they were of sufficient importance to deserve further study. According to numerous reports of cases, almost any surgical operation about the head would cure ninety per cent. of migrainous patients. He thought we might speak of a pseudo angina pectoris of gastric origin. The stomach and intestines were the most frequent causes of reflex pains; second, he thought, was the uterus.

In his conclusions, he said that reflex pains were pains reflected from a lower to a higher level; they occurred, as a rule, when the irritation was severe over the part where the irritation existed. Reflex pains originating in one cerebro-spinal nerve were referred to other cerebro-spinal nerves, and those originating in visceral nerves were reflected to the cerebro-spinal nerves,—rarely the reverse. Reflex pains were unilateral when the cause was unilateral, and were felt on the same side. There were occasional exceptions to this rule. Remote reflex pains were only produced when the irritation was slight. Diffuse irradiation of the pains meant an impaired state of the nervous system. Reflex pains of visceral origin were carried by the cerebro-spinal nerves to the cord, and thence to the brain, and not by way of the pneumogastric. He did not believe the pneumogastric to be a sensitive nerve of the viscera.

The paper was discussed by Dr. W. O. Moore and Dr. Putnam Jacobi, and the discussion was closed by the author.

PHILADELPHIA NEUROLOGICAL SOCIETY.

A STATED meeting was held December 27, 1886, the President, Dr. S. Weir Mitchell, in the chair.

Dr. Guy Hinsdale read a paper entitled

FACIAL SPASM AND TIC DOULOUREUX FOR WHICH NEURECTOMY AND NEURO-TENSION WERE EMPLOYED (see page 278).

DISCUSSION.

The President, Dr. S. Weir Mitchell: I have several points to make with reference to these cases. The woman operated on by Dr. Keen I have seen within the past few days, and she presents no paresis of the face at all. As yet the case is a perfect success. She is entirely free from any twitching. Her case recalled others, and in looking over my note-books I found that within the past twelve years I had seen fifteen cases of painless tic, in none of which was the slightest relief afforded by any method of treatment. It so happened that shortly after Dr. Sinkler's case was treated so successfully, Mrs. G., aged 49, the widow of a physician, a very intelligent woman, consulted me. She stated that her tic had begun about three years ago. It first appeared under the eye, where it nearly always begins, although I may say that as yet the history of these cases is not complete. Then the twitching appeared in the cheek, which, as a rule, has been the point next attacked in my cases. The spasm afterwards extended to the mouth. In those cases in which it became general it extended beyond that, and in the last case that I have seen the levator muscles of the ear were involved, so that the ear was drawn upward every time that the face twitched. But extension to the neck or more distant parts is seen at times in rare cases.

In Mrs. G. the spasm was very violent, and she described it by saying that "the whole side of the face migrated under the left ear and stayed there awhile." The length and endurance of the spasm were remarkable. She had from ten to fourteen attacks every minute. They were pretty regular. At certain times she was comparatively free, but scarcely five minutes passed without twitching.

I observed in this case, as in some others, a certain amount of appearance of paresis on the affected side of the face,—that is to say, the muscles on the sound side of the face appeared to predominate. I have so far been unable to observe any difference in the electrical reactions of the affected muscles. Perhaps more careful observation will show some change. It has been suggested to me that this paresis was the result of fatigue; but, as we

know, in most spasms the muscles become larger and stronger and do not present evidences of fatigue.

In this case I began to think whether there was not something which had not been done which might give relief. The idea of weakening the facial nerve or its branches by freezing suggested itself. If I had reflected a little I should have recognized the fact that it is impossible to affect the deeper nerves in this way. Freezing by vapor-jets applied to the surface acts very little beneath the skin. I have tried this by putting the finger in the mouth and trying to freeze through the cheek by means of the rhigolene spray. I have never succeeded in producing more than a slight chilling. In this case I have on sixteen occasions frozen with the rhigolene-jet a large portion of the skin of the cheek, sometimes covering the whole of the side of the face, taking care to protect the eyes and to prevent the inhalation of the vapor.

The result has been an interesting and a curious one. The very first freezing, like all the subsequent ones, brought on instantaneous spasm. The moment the jet struck the face there was violent twitching. When freezing was effected the spasms ceased and did not return for many hours. This result surprised me very much, and it appeared that while I was attempting to accomplish the result in one way I had done it in another.

Under these daily freezings this case has gained so far as to pass days without more than such rare twitches beneath the eye as excite no attention. Enough has been won to satisfy her if the gain should last, as to which I will report.

I observed that a vigorous freeze over the points of nerve-exit was better than a general freeze. I am about to try if localized freezing by ice and salt or other means which act more deeply may not answer. The influence *seems* to be exerted through the sensory nerves, from which possibly arise also the impressions which create these spasms. With my remembrance of former cases, I cannot say that I feel hopeful as to the remote future of the present one.

I have tried the same plan of treatment in a second case of nine years' standing. She came to me some years ago, but, as I knew of nothing that would afford relief, I refused to treat her. I sent for her ten days ago, and began the use of the rhigolene spray. She too has slight paresis. The face is apparently pulled to the right, the spasm being on the left side, which is the side commonly affected. The results obtained with the individual freezings are practically the same as in the first case. The touch of the spray brings on the spasm. When the part is frozen the spasms remain absent for a considerable length of time, although not so long as in the first case. The period varies from half an hour to two hours. Under this plan of treatment the attacks have diminished in frequency and in intensity.

This is as far as I have gone, but I thought it well to bring this matter before you, for some of you may have one of these rare cases under observation and may desire to try the same experiment. As we know of no method of treating these cases except by operation, I consider it perfectly proper to try the effect of rhigolene. After the spray has been used for some days, care must be exercised that a slough is not produced. I have never had a slough, although I have made the skin very sore. This has led me to think that possibly the good result was due to counter-irritation, and I shall not be satisfied until I have tried extensive counter-irritation over the origin of the facial nerve in some suitable case.

Dr. J. Madison Taylor: I have had under my care a case in which a severe spasm of the right side of the face had been present for twenty years. The woman was nervous, and came of a family many members of which were in a general way nervous, yet quite strong and robust. The spasm, although very annoying, was not sufficiently marked to call for special treatment. About fourteen months ago the youngest daughter of this woman passed through a severe attack of typhoid fever. The mother, from nursing the child, became very much exhausted. Then the spasm grew worse, and was at times sufficient to shake the head. When the child became convalescent the mother was taken with the disease and had a severe attack, with high fever and delirium for six days. Upon her recovery from the typhoid fever the spasm had entirely disappeared, and to the present time, a period of ten or twelve months, there has been no return. It is interesting to note the curative effect of a severe illness on this intractable disorder. Hers was a veritable purgation with fire.

(To be continued.)

REVIEWS AND BOOK NOTICES.

How We Treat Wounds To-Day. A Treatise on the Subject of Antiseptic Surgery which can be Understood by Beginners. By Robert T. Morris, M.D. New York and London, G. P. Putnam's Sons, 1886.

The subject of the antiseptic system of dressing wounds (without the spray) is presented in this work in a terse, familiar, and dogmatic style, which may convince some surgeons who have not yet had it presented as directly to their attention as it is here, but it is probable that many will be repelled by the style of the writer. One could be excused, however, for feeling and expressing himself strongly who daily sees operations performed, with

safety to the patient, which under the former methods were attended with prolonged suppuration, and in spite of the utmost care frequently terminated fatally,—operations, indeed, which under other circumstances would be properly regarded as unjustifiable. Besides the technique of antiseptic treatment, its application to various kinds of wounds—lacerated, gunshot, or poisoned—and burns is specifically discussed.

Sixth Annual Report of the State Board of Health of New York. Transmitted to the Legislature March 19, 1886. Albany, New York, 1886.

In the Secretary's report a number of interesting topics are considered. The relations of pulmonary consumption and cerebro-spinal fever to faulty drainage and high ground water; the prevalence of filth diseases, the history of the last year's smallpox epidemic upon our borders demonstrating again the protective value of vaccination, and the futility of relying upon quarantine alone to exclude contagious disease; an outbreak of typhus fever; a discussion of the fallacies of the chemical analyses of water, and the importance of a biological test, are the principal topics considered in the Secretary's able report. Reports from the Sanitary Committee, of inspection of localities and upon the sewerage of Binghamton, accompanied with maps, are given, and a report of the State Analyst of Drugs is appended, with special reports on quinine pills and on beer. The report of the Standing Committee on Registration and Vital Statistics and appended documents also contains much interesting and valuable materials, gathered from actual inspection.

An Ephemeris of Materia Medica, Pharmacy, Therapeutics, and Collateral Information. January, 1887.

The first number of Volume III. of Squibb's Ephemeris contains valuable articles upon hydrochlorate of cocaine, opium, and aconite, in addition to interesting notes on medicine and pharmacy abroad, the relations of physicians to their medical supplies, and the alcohol question before Congress. The Ephemeris will continue to be published at intervals, according to the accumulation of materials.

Coca Erythroxylon (Vin Mariani). Its Uses in the Treatment of Disease. With Notes and Comments by Prominent Physicians. Third Edition, Paris and New York.

This little work gives a satisfactory *résumé* of what is known of coca, and especially of its application to the treatment of disease in the form of Mariani's wine. Among the names of those furnishing testimonials as to the benefit derived from the coca-wine are those of many prominent artists and physicians. A copy of this monograph will be sent free by the publishers to any address. Mariani & Co., 127 Fifth Avenue, New York.

The *Archives of Gynæcology, Obstetrics, and Pædiatrics*, New York, series of 1886, just completed, has met with such warm encouragement that the publishers have decided to issue them monthly, instead of bi-monthly, as heretofore, commencing with January.

NEW REMEDIES AND CLINICAL NOTES.

An Experimental Study of Mycotic or Malignant Ulcerative Endocarditis.—Malignant ulcerative endocarditis is a form of lesion always associated with some kind of bacteria. The causative relations of these bacteria to the lesions are points upon which Dr. T. Mitchell Prudden seeks to throw some light in a recent paper.

Dr. Prudden shows that bacteria are frequent in a certain proportion of cases of acute ulcerative endocarditis in the cardiac and, when these exist, in the peripheral lesions. These bacteria are small and of spheroidal form in almost all the cases thus far described; but in a few cases the presence of bacilli has been noted. There are cases of ulcerative endocarditis with extensive destruction of tissue and large formation of thrombi, in which the lesions are entirely free from bacteria. In these cases, as a rule, the endocardium is the seat of an old inflammatory process, and the peripheral embolisms, infarctions, etc., do not contain bacteria. In many cases of acute ulcerative endocarditis associated with bacteria, the valves and endocardium are also the seat of old inflammation.

The destructive process and formation of thrombi in the heart-valve and endocardium may be as marked and extensive in the cases in which the bacteria are absent as in those in which they are present; but in the latter class of cases the embolic lesions which are apt to be developed are of an infectious nature, and the general course of the disease is apt to bear the stamp of an acute infectious disorder.

The gross appearance of the valvular lesion does not always or usually enable us to distinguish between these two forms of disease. Bacteria are sometimes present in cases of acute vegetative endocarditis, but in the lesions of chronic proliferative endocarditis they do not appear to occur at all. The bacteria which are present in the cardiac and peripheral lesions in cases of malignant ulcerative endocarditis are the causative factors in the disease. The bacteria apparently produce the cardiac lesions by lodgement on the surface of the valves and endocardium, when the latter are rendered vulnerable to their action either by

mechanical or chemical injury, or by the presence of old inflammatory alterations, or by conditions unknown to us. Bacterial embolism of blood-vessels of the heart-valves is apparently not of frequent occurrence, as was formerly believed.

The only bacteria which have been thus far absolutely identified as occurring in the lesions of malignant ulcerative endocarditis in man are Streptococcus pyogenes and Staphylococcus pyogenes aureus. This identification has been made in six cases. Dr. Prudden has demonstrated that other species of bacteria than those mentioned are capable of causing similar lesions in rabbits under similar experimental conditions.

Finally, Dr. Prudden points out that, in view of the significant relationship of the bacteria of pyæmia and suppuration to malignant ulcerative endocarditis in the cases thus far fully examined, it is evident that a demonstrably diseased condition of the heart-valves, or a previous history which would suggest the possibility of such a condition, should be an additional incentive to the practice of a vigilant antisepsis in operations, however simple, upon this class of cases.—*American Journal of the Medical Sciences.*

On Some Forms of Albuminuria not Dangerous to Life.—The gravity of albuminuria as a symptom has been differently estimated at different times, but gradually it has come, in recent years, to be known that albumen often appears in the urine, even in considerable quantity and very persistently, in persons free from important organic malady. Indeed, it may be maintained that some patients with persistent albuminuria are yet eligible for life-insurance at little, if at all, above ordinary rates.

It is, therefore, important to know the characteristic features of these non-dangerous albuminurias and in general the pathological import of this symptom in a given case.

Dr. Grainger Stewart, in the same journal, studies the following varieties: 1, paroxysmal albuminuria; 2, dietetic albuminuria; 3, albuminuria from muscular exertion; and, 4, simple persistent albuminuria; and illustrates each with reports of cases which are markedly characteristic.

The diagnostic features of paroxysmal albuminuria are the sudden and copious occurrence of albumen in the urine with numerous casts, the process lasting only a short time and recurring at intervals with or without a perceptible exciting cause. The exciting cause, according to Dr. Stewart, is irritation of the kidneys from blood-changes. The treatment should be directed, on the one hand, to the avoidance or diminution of renal irritation, and, on the other, to the regulation of the hepatic function and of the chemical processes in the body. Happily, the attacks are usually of brief duration, and he has never known them prove permanently injurious.

Dietetic albuminuria is a variety which has long been more or less distinctly recognized. Some people suffer from it whenever they indulge in certain articles of diet. In some cases one kind of food, in others many require to be proscribed: cheese, pastry, and eggs are among the more common offenders. Of this group our present knowledge does not suffice to afford a satisfactory explanation.

The cases of albuminuria following upon muscular exertion Dr. Stewart is disposed to attribute to a general change in vascular activity. The principal indications for their treatment are met by rest, judicious diet, and attention to the general health. Those remedies which act upon the muscular fibres of the vessels deserve trial.

The features of simple persistent albuminuria are the constant presence of albumen, usually in small quantity, unattended by tube-casts, diminution of urea, increased muscular tension, cardiac hypertrophy, or other consequence of renal malady, persisting for a period of months or years, and little influenced by diet or exercise.

Dr. Stewart concludes his study with a consideration of the prognosis of these groups, placing special dependence upon the quantity of the urea, the presence or absence of tube-casts, and the condition of the pulse and heart. This will indicate whether simple albuminuria or organic disease is present, and if they are favorable a hopeful prognosis may be given.

Actinomycosis Hominis.—Actinomycosis is a progressive inflammatory affection set up by a certain fungus, the actinomyces, resulting in the formation of granulations and fibrous tissue and in suppuration; attacking human beings, cattle, and swine, and communicable to cattle by inoculation. The fungus occurs as small globular masses, commonly about the size of a millet-seed, usually of a pale-yellow color, but at times white, brown, green, or speckled, with a surface closely covered with palisade-like rows of clubbed bodies which give it a mulberry-like appearance. If seated in the tissues, each portion of fungus is surrounded by inflammatory products forming a nodule which in its structure may exactly resemble a tubercular granulation. In the *American Journal of the Medical Sciences*, Dr. E. Markham Skerritt gives a *résumé* of our knowledge of the disease, and reports a case in which one lung had been previously attacked, and which presented certain features of special interest.

The etiology of the disease is still obscure. The micro-organism has never been recognized outside the body, and, apart from inoculation experiments, no direct relationship between the disease as occurring in the lower animals and as met with in man has been

established. There is strong evidence to associate the occurrence of the disease with the existence of carious teeth or dental fistulæ. The fungus may enter the body, however, by the mouth, pharynx, respiratory passages, or digestive tract. Wherever the primary seat may be, in any case of actinomycosis, generalization of the fungus by embolism may occur, with resulting recurring rigors and hectic and secondary foci of infection.

Prolonged Gestation.—Dr. J. Cheston Morris reported to the Academy of Medicine the following case, which occurred in his practice in 1857. He found the patient, contrary to her belief, three months pregnant in May; she quickened about June 20, and presented no unusual symptoms until the 20th of August, when she fell down a flight of stairs, and soon after lost a large quantity of blood, which she insisted was liquid only. The motion of the child ceased from three to four weeks, when they recommenced, feebly at first and afterwards stronger, which continued until delivery, April 18, 1858, there being nothing abnormal about the child. After careful study, he was forced to believe that the woman carried the child for fourteen months. This led to an investigation of the duration of pregnancy, which is usually held to last during ten lunar months. In order to have a help in this research, he made use of a study of gestation in the lower animals. For twenty years he kept a record of a flock of sheep on his farm. This period has been usually assumed to be one hundred and forty-seven to one hundred and fifty days. But in fact he had reported one hundred and twenty-six pregnancies with an average of one hundred and sixty-four and a half days' duration. In 1878 the flock appeared to be suffering from an epidemic of scarlatina, and the duration of gestation varied between the extremes of one hundred and forty-six and one hundred and ninety-nine days.

Whenever practicable, he had collected histories of human pregnancies which could be assigned to a certain fixed time, and out of a list of twenty-five selected with care, the limit varied between the limits of two hundred and fifty to two hundred and ninety-one days.

Addison's Disease in a New-Born Infant.—Dr. E. Belaiëff, of Voronej, details in the *Meditzenskoie Obozrenie*, No. 1, 1886, page 54, a unique case of Addison's disease in a new-born male infant. No case occurring in a child younger than three years of age has ever been recorded. The child had been deserted, and was found lying on the pavement. It appeared to be about seven days old. The integuments were slightly yellowish, with a gray tint. Later on, the yellowish discoloration disappeared, while the skin gradually assumed a dirty-gray color, which was most intense on the back and belly, especially around the navel. Notwithstanding a good appetite, the infant steadily became prostrated and emaciated, and fifty-three days after admission died in an unconscious state during a paroxysm of tonic and clonic convulsions. There was no fever from the beginning to the end. At the necropsy both supra-renal capsules were found considerably enlarged (one by three-fourths inch), their upper two-thirds being transformed into an aggregate of thin-walled, semi-translucent cysts, the size of which varied from that of a pin's head to a small cherry. The cysts contained clear serous fluid.—*British Medical Journal.*

Ingluvin.—An infusion made with the inner membrane of the gizzard of the chicken is said to be a domestic remedy in long use in some portions of this country for the relief of weak digestion, and it has been used in a similar way for many years in China. The powdered dried membrane was highly recommended for such condition by the late Professor Ellerslie Wallace, of the Jefferson Medical College. Ingluvin has been made by Mr. W. F. Warner, in order to meet the demand created for it very largely by Dr. Wallace's praise of it, especially in the vomiting of pregnancy. It is a yellowish-gray powder, and is given, like pepsin, in three- to ten-grain doses in the disordered stomach during gestation, cholera infantum, diarrhœa, and flatulence with indigestion. As it has no irritant effect, it can be given in inflammatory conditions of the mucous membrane. Bartholow recommends it for the relief of vomiting, especially during pregnancy.

For Diarrhœa in Children.—

℞ Ferri sulphatis,
Sodii salicylatis, āā gr. xx;
Glycerini, f℥ij;
Aquæ q. s. ad f℥iij.

Dissolve soda and the iron salts separately, and mix the solutions. One teaspoonful should be given every hour until the stools are blackened (in about twenty-four hours); afterwards every three hours. Occasionally a small dose of castor oil is given, in order to clear the bowels and get the secondary constipating effects of the oil.—Braithwaite: *British Medical Journal.*

MISCELLANY.

Fire-Proofing Wood.—A mode of rendering wood incombustible not generally known is described as follows: Soak 27.5 parts by weight of sulphate of zinc, 11 of potash, 22 of alum, and 11 of manganic oxide in lukewarm water in an iron boiler, and gradually add 11 parts by weight of sixty-per-cent. sulphuric acid. The wood to be prepared is placed upon an iron grating in an apparatus of suitable size, the separate pieces being placed at least an inch apart. The liquid is then poured into the apparatus and

the wood allowed to remain completely covered for three hours, and is then air-dried. The mode of application described is, we fear, a serious obstacle to the general use of this process for timber employed in building, especially as the rough timber, before being worked or framed, could only be conveniently treated in this manner. If joists, ceiling-beams, and all joinery exposed to fire could be treated after being fixed with some chemical solution of proved resistance to the action of flame, we believe many architects would be found to employ it.—*Druggists Circular.*

INTERNATIONAL MEDICAL CONGRESS, VACANCIES FILLED.—Dr. J. J. Chisolm, of Baltimore, Maryland, has been appointed President of the Section of Ophthalmology, in place of Dr. E. Williams, who was compelled to resign on account of ill health. Judson B. Andrews, M.D., Superintendent of the Hospital for the Insane at Buffalo, New York, has been appointed to the place made vacant by the death of Dr. John P. Gray, as President of the Section of Psychological Medicine and Nervous Diseases. No vacancies now remain in the list of the chief officers of the preliminary organization of the Congress or its Sections, and our information from all departments is of the most encouraging character.—*Journal of the American Medical Association.*

ON the 29th of December the course of the Training School for Nurses at the University of Pennsylvania was formally opened. The first lecture was on "Treatment of Fevers." It was delivered by Professor William Pepper.

INSTRUCTION IN MASSAGE.—Dr. Benjamin Lee, No. 1532 Pine Street, has begun a course of lessons in massage and the simpler Swedish movements. Classes are limited to six.

ANTIFEBRINE (acetanilide) has been used quite extensively by M. Dujardin-Beaumetz in the treatment of epilepsy. It is believed to be one of the most powerful "moderators" of the special centres that we possess.—*Lancet.*

MR. LAWSON TAIT has had conferred upon him by the University of the City of New York the honorary degree of M.D.

NOTES AND QUERIES.

EXTRACT OF MALT AS A THERAPEUTIC AGENT IN TABES AND TUBERCULOSIS.

HAVING had marked success in the use of Johann Hoff's Malt (Eisner's), I deem it proper to report a few cases.

Case I.—On the 25th of November, 1886, I was called to see P. R., æt. 5 months. Father has tuberculosis, mother strong and healthy, nursing the child at the breast. Hygienic surroundings bad, house damp. The child has had a cough almost since birth, which has been growing worse; he has been losing flesh; marked emaciation; vomits occasionally through the day. Bowels regular, containing at times muco-purulent matter, most likely from the lungs. Pulse weak and rapid, tongue coated, child peevish. Physical signs: large and small râles in various parts of both lungs; prolonged expiration; percussion-dulness at various points. The child was placed upon half-teaspoonful doses of Johann Hoff's Malt four times a day. I wish to call particular attention to the fact that this extract should be administered warm in cases of lung-disease.

December 9, 1886. The child is much better, the cough slight, appetite improved, vomiting ceased. The stools contain very little muco-pus. Respiratory sounds approaching the normal; the dulness is clearing. Ordered teaspoonful doses of the Extract four times a day.

January 6, 1887. The child has been well for more than a week. He is well nourished, pulse strong, stool normal. The cough has disappeared, lung-sounds normal. Child discharged cured. Diagnosis, tabes.

Case II.—H. B., æt. 6. Had nasal diphtheria on October 28, 1886; was fully recovered on November 17. About December 6 the mother noticed an impediment in the child's speech and sent for me. The patient was markedly anæmic, spoke with a nasal twang, and severe attacks of coughing followed the act of swallowing liquids. Diagnosis, diphtheritic paralysis of the pharynx. Treatment: strychninæ sulph., gr. $\frac{1}{60}$, quininæ sulph. and ferri sulph., āā gr. ss, in pill three times a day.

December 12. Child slightly improved. Stopped the pills and ordered teaspoonful doses of Johann Hoff's Malt four times a day.

January 4. The child has made a complete recovery.

Case III.—I was called to attend Mrs. M. W., æt. 42, on December 13, 1886. Her family history is good. Was perfectly well up to four months ago. Her husband died a year ago of phthisis. Physical examination revealed the early stages of tuberculosis, affecting the left lung. Debility has been so marked that she has not been able to get out of bed for the last five weeks. The cough is very troublesome, pulse weak. Ordered a wineglassful of the Johann Hoff's Malt four times a day.

December 24, 1886. The patient states that before she had emptied the first bottle she was able to walk across the room. At this date she is down-stairs; is much stronger; pulse improved; cough not so troublesome; chest-sounds markedly improved.

January 6, 1887. Patient has gained very much in strength, and is able to attend to her household duties. The future progress of this case will be reported.

J. B. POTSDAMER, M.D.
1629 NORTH EIGHTH STREET, PHILADELPHIA,
January 6, 1887.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 2, 1887, TO JANUARY 15, 1887.

LIEUTENANT-COLONEL JOSEPH C. BAILY, ASSISTANT MEDICAL PURVEYOR.—Ordered from Department of the East to New York City, to take charge of the medical purveying depot in that city, relieving Captain Henry Johnson, Medical Storekeeper, from duty as acting assistant medical purveyor. S. O. 9, A. G. O., January 12, 1887.

MAJOR HARVEY E. BROWN, SURGEON.—Granted leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 9, A. G. O., January 12, 1887.

CAPTAIN J. K. CORSON, ASSISTANT-SURGEON.—Ordered to Fort Cœur d'Alene, Idaho Territory.

CAPTAIN C. E. MUNN, ASSISTANT-SURGEON.—Ordered to Fort Canby, Washington Territory.

FIRST-LIEUTENANT J. M. BANISTER, ASSISTANT-SURGEON.—Ordered to Fort Cœur d'Alene, Idaho Territory. S. O 227, Department of the Columbia, December 31, 1886.

CAPTAIN RICHARDS BARNETT, ASSISTANT-SURGEON.—Leave of absence further extended six months, on account of sickness. S. O. 9, A. G. O., January 12, 1887.

FIRST-LIEUTENANT GEORGE F. WILSON, ASSISTANT-SURGEON.—Leave of absence extended twenty days. S. O. 9, A. G. O., January 12, 1887.

FIRST-LIEUTENANT H. I. RAYMOND, ASSISTANT-SURGEON.—Ordered for duty at Presidio of San Francisco, California. S. O. 127, Department of California, December 29, 1886.

FIRST-LIEUTENANT F. J. IVES, ASSISTANT-SURGEON.—Granted one month's leave of absence, with permission to apply for twenty-three days' extension. S. O. 1, Department of the Platte, January 3, 1887.

PHILADELPHIA, FEBRUARY 5, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF APOPLEXY; AND ON THE USE OF COCAINE AS A HEART-TONIC AND STIMULANT IN TYPHOID AND OTHER LOW FORMS OF FEVER.

Delivered at the Pennsylvania Hospital, December 18, 1886,

BY PROF. J. M. DA COSTA, M.D.

GENTLEMEN,—The first case to be brought before you this morning is that of an elderly man who has had an attack of apoplexy. In the first place I must state that the early history of this case is not beyond doubt, because the patient was not in a condition to give us much information. However, we have ascertained, from his friends chiefly, that this man had been healthy during the greater part of his life; he had been accustomed to the moderate use of alcohol; venereal infection is denied. His occupation is that of porter in a wholesale tobacco house. He had been in good health and felt well—so he states since he has become more conscious—until the day of admission, which was three days ago. After working as usual through the morning, at two o'clock in the afternoon he dropped a piece of paper, and he stooped to pick it up with his left hand, but found that he could not do so. A few minutes later he lost power in his left leg as he was going home, and nearly fell in the street. He states positively that he had neither headache, nausea, nor loss of consciousness either before or during the attack. We found, after he was brought here, that his mind was clouded; but since his mental condition has cleared he declares that he retained possession of his senses, and knew everything that was going on around him, although he could not speak; he was dazed rather than unconscious. He was brought here on the evening of the mishap.

Upon admission his temperature was 98° in the axilla. His face was drawn to the right, his tongue was protruded to the left. There was no marked inequality of the pupils, and no strabismus. There was almost complete loss of power in the left arm, and decided weakness of the left leg. He was very restless. His mind was clear, his voice was indistinct; he answered questions correctly, but not distinctly. Although upon admission some of his answers led us to think that he did not know very well what he was saying, yet he always made the attempt to answer questions.

Two drops of croton oil were given at once, which purged him freely. Next morning his mind was considerably clearer; he stated himself that he had had headache the night before, but none in the morning.

On the 16th his mind was clear; his pulse, which on the evening after admission was 80, with a temperature of 98°, in the morning was 78, and the temperature had risen to 99°. A faint systolic murmur was heard over the heart; the paralysis was the same as the day before. Now, finding him in this condition after having obtained all the benefit that we probably could obtain from active purgation alone, and observing that he was a vigorous man with a tense pulse, I had twenty ounces of blood drawn from his arm. The croton oil was repeated. He was also placed upon one drop of aconite tincture every second hour. His urine was examined and found to contain a small amount of albumen.

On the evening of the day that he was so freely bled and purged his pulse was only 68 in the minute, and far less tense. This was on the 16th. Let us see how he has fared since.

Yesterday (17th) his evening temperature was 99°, and this morning it is 98.4°. His pulse, taken this morning, was only 72. His urine is still albuminous. He now answers our questions intelligently, and says that he feels quite well; he had a little headache early this morning, but none since. His tongue is still coated, and the face is drawn to the right. He can close both eyes. He has still left-sided hemiplegia. On examining his heart, I find that I can still perceive the very faint murmur heard the other day; it is followed by a distinct second sound. No swelling of the feet has been observed. His left arm is powerless; the leg can be moved more than it could the other day. The patellar tendon reflex and the ankle clonus appear completely abolished; but the man holds his leg so rigidly that I do not lay stress upon this as a matter of observation.

The reflexes in the arms are preserved. It is also very evident that sensation in both arm and leg is blunted, though not destroyed.

Here is a man paralyzed upon one side by an apoplectic seizure. The attack comes on suddenly, without premonition. There is no loss of consciousness; though he is somewhat dazed for a time, he regains consciousness soon; there is complete loss of power in the left arm, partial in the leg; and there is paralysis of the face on the left side also. There is slight murmur in the heart, a trace of albumen in the urine,—and this occurring in a man 60 years of age.

What has happened to this man?

Gentlemen, there can be no doubt that the sudden occurrence of the symptoms affords only two possible explanations: a cerebral clot or a cerebral embolus. Against embolism is this: there is not enough disease of the heart to give rise to it. Although you have recently seen a case of cerebral thrombosis without disease of the heart, yet we need not take this up for consideration in this case. He has slight thickening of the mitral valves, and possibly atheroma. The explanation here is found in a similar condition in the walls of the vessels in the brain, with slight rupture and extravasation. The question now is, Where was this lesion? The paralysis is incomplete in the leg, complete in the arm, partial in the face; there is also some sensory disturbance, but not absolute loss of sensation. The ordinary site of the lesion giving rise to motor disturbance is the corpus striatum. In this case the lesion would be in the right side of the brain. I do not think, however, that a lesion of the corpus striatum would give rise to an incomplete palsy of the face and leg and complete paralysis of the arm. I am inclined to believe that the cortical motor centre for the arm was the primary site of the hemorrhage, which subsequently extended over to adjoining centres. This explanation is rendered probable by recent advances in physiology; still, it is something we cannot be sure about. But there are several points of more interest to us than the exact site of the lesion. One of these is the cause. Why should this man have this rupture? He was not working hard; there was no special strain upon him at the time it occurred. Why did he have apoplexy? I think that we have an explanation here in the slight amount of albumen in the urine and slight disease of the heart, which point to the conclusion that there are also brittle blood-vessels in the brain; one of these has broken, causing effusion of blood.

An interesting point, here, is that the leg was not affected for some time after the arm was paralyzed. Turning now to the question of treatment, the first dose of croton oil gave him two large stools, the second only one watery movement. The effect of the bleeding was to reduce the tension of the pulse, and to make it slower. The leg also has greatly improved. Here is a case which was bled early, within twenty-four hours after the onset of the symptoms, and the result has been a favorable one. For one thing, we notice that there has been no secondary fever: whether this has been due to the bleeding, the purgation, or the aconite, it is certain from the temperature-record that there is no fever.

What shall now be done for him? We will keep up the aconite, and purge him occasionally, giving him only the blandest diet, and placing a blister at the back of his neck, and wait. Time will do a great deal towards the absorption of the clot and the restoration of function in these paralyzed limbs. After a while it will be a question whether electricity and massage may not be necessary for the restoration of the muscles, and soon iodide of potassium may be administered in order to favor absorption of the clot; but for the present there can be no doubt that the treatment he is on is the best one to pursue.

[The man, shown at a subsequent clinic, was seen to have made an excellent recovery, having very largely regained power in all the muscles.]

COCAINE AS A CARDIAC STIMULANT.

I shall now show you a case which I propose to discuss from a purely therapeutical point of view. The important questions which arose during the progress of the case, and in connection with the diagnosis of the disease and the pathology, are not the points which I wish to bring before you: I rather will call your attention to the results of treatment.

This man, 29 years of age, a laborer by occupation, was admitted into the hospital on the 15th of last month, suffering with typhoid fever. There is no doubt as to

diagnosis, or as to the fact that he was a very ill man. If you look at the temperature-record you will notice the temperature going up to 104°, and not only once, but a number of times is this high temperature attained. There were also noted great weakness of pulse, sweating, very feeble action of the heart, and tendency to pulmonary congestion.

This man was placed upon the usual treatment, mineral acids, quinine, and turpentine stupes, and just a few times oil of turpentine was given internally. From the outset he was very weak, and it was noticed that the ordinary stimulants seemed to have very little effect upon him; he used twelve ounces of whiskey daily without apparent benefit. During the progress of the case I was much struck with the weakness of the pulse and the whole condition of the patient. There was no congestion of the lungs, such as we often find in typhoid fever, and no local lesions to account for this, but he was suffering from the secondary effects of the typhoid-fever poison upon the circulation.

I then placed him upon cocaine hydrochlorate, a quarter of a grain every two hours, and subsequently half a grain at the same interval, and reduced the whiskey to eight ounces a day. Now, gentlemen, the improvement was striking; cocaine showed its power here, as it had in similar cases I have seen elsewhere, and in the hospital two years ago. I was prepared to find cocaine showing its power, as it did in this case in a most marked manner; and the patient, upon whom ordinary stimulants had very little effect, began to improve in the course of twelve hours after it was begun, and the cocaine was gradually reduced, and was stopped entirely last week. During all this time he was increasing in strength and the pulse in volume, and his general condition steadily improved. His temperature this morning is 99°, so that, although not yet normal, we regard the case as convalescent. The heart-sounds are far more distinct; the first sound, which was almost inaudible, can now be heard. The pulse has the same volume and strength as it had last night. His morning pulse is 74; last evening it was 72. It has never been a high pulse, however, being even at the height of the malady under 90, and in spite of the fact of the great weakness of the heart. There is vesicular respiration at the base of the right lung, with a few fine râles; percussion-note is clear, though less so than on the right side; the congestion has passed away.

He has stopped taking cocaine, and is taking a bitter tonic, and that is all that is necessary. It is to call your attention to the use of cocaine as a heart-tonic that I have brought this case before you.

While on this subject I thought you would be interested in looking at this temperature-chart,—that of a similar case. The patient to whom it belongs has left the hospital, though I expected to present him before you this morning. The man whose temperature you see recorded here was also ill with typhoid fever, in the same ward as the preceding case, for a month. He was even more ill than the other patient, since his temperature was 105°. There was the same extreme prostration and failure of stimulants to act upon the heart. The pulse was about 130, and was very weak; therefore it was not a slow pulse like the other case. The apex-beat of the heart was lacking in force, and the first sound was almost inaudible. He had also used quinine and mineral acid, and for a short period tincture of digitalis, but with perfectly negative results. Whiskey was likewise without effect. We gave him cocaine, one-quarter grain every two hours, then increased to one-half grain. The man's life hung in the balance for a few days; but then—really, I think, as the result of the cocaine—he grew more quiet, the nervous symptoms were favorably influenced, and the heart and pulse became decidedly stronger. He began on the 5th; the dose was increased to half a grain on the 6th: it was kept on at that rate until the 14th, when he had so manifestly improved that it was decreased to half a grain every four hours, and about a week afterwards it was gradually withdrawn altogether.

From the temperature-charts before us you see that these two cases go well together therapeutically. I bring them here in order to call your attention to cocaine as a heart-tonic in sustaining the circulation in low forms of fever; especially where there is cerebral disorder superadded. In typhoid fever these conditions are found, and I have just called to your notice the nervous symptoms in the cases before you.

Do not think, however, that these are the only cases in which I have resorted to the sustaining properties of cocaine. Indeed, I began nearly two years ago to

give it in cases of typhoid fever, and I have since often relied upon it to relieve low states of the system and weak heart. I have found in many instances that cocaine was of decided value.

You may ask, Is digitalis not indicated in such a case? It is, but some patients cannot take it at all, and in others it cannot be given for any length of time without causing symptoms of gastric disorder. Again, it has never seemed to me a good heart-tonic in cases of low fevers. Cocaine is free from the objections to digitalis. I could also give you the histories of a number of cases, illustrating the stimulating and sustaining powers of cocaine in cases of lowering of the powers of life, but this would be foreign to our subject. What I have said this morning may be sufficient to direct your attention to cocaine as a remedy of value in low fevers attended by nervous depression and a weak circulation.

ORIGINAL COMMUNICATIONS.

ON EPILEPTIC BRAINS.

Read before the Philadelphia Neurological Society, December 27, 1886,

BY FRANCIS X. DERCUM, M.D.,

Instructor in Nervous Diseases, University of Pennsylvania; Pathologist to the State Hospital for the Insane at Norristown.

THE writer has thus far had the opportunity of studying twelve epileptic brains. Eleven of these have been already described in the "Report of the Pathological Laboratory of the State Hospital for the Insane at Norristown" for the current year, while the twelfth has likewise been described in the Pathological Report of the same institution for the year 1885.* It is not, therefore, my intention to give a detailed account of the convolutions of these brains, but merely to point out some striking peculiarities and to give expression to some of the thoughts which this study has suggested.

We have, in the first place, a notable tendency to the confluence of fissures, which is an acknowledged point indicating a low degree of cerebral development. This tendency is well marked in *every one* of the brains studied. In a number of instances the fissure of Rolando is confluent with the Sylvian fissure. In a number of others the Sylvian, interparietal, and parallel fissures are variously confluent. One of the most striking and most constant instances of confluence is observed in the fusion of the parieto-occipital with the interparietal. It occurs completely in *seven* of the brains studied, and imperfectly in two others.

This tendency to the confluence of fissures is of necessity accompanied by an absence or lessened development of the normal arching or bridging convolutions. For instance (as is well known), the upper end of the parieto-occipital fissure is normally separated from the interparietal by the first occipital convolution of Ecker, the so-called *pli de passage supérieure externe* of Gratiolet. In the instances where these fissures are confluent this *pli de passage* is either entirely absent or so imperfectly developed as not to emerge upon the general surface of the brain.

As a result of the confluence of fissures, appearances resembling the conditions found in the brains of monkeys are occasionally simulated. This, again, is notably the case where the parieto-occipital and interparietal fissures are confluent. In the majority of instances in which this confluence occurs the upper end of the parieto-occipital passes through the interparietal fissure, and terminates far beyond on the lateral surface, thus exactly reproducing the *external perpendicular fissure of the apes.* Occasionally this external perpendicular fissure is accompanied by a second fissure running in a parallel direction, and in one of the brains studied there were three such parallel external perpendicular fissures. It is probable that in these cases *one* of the fissures is homologous with the corresponding fissure in the apes, while the others are merely "*vegetative repetitions.*" †

Following the course of the external perpendicular fissure we come, in some instances, upon a well-marked Wernicke's fissure,—*i.e.*, a fissure running more or less perpendicularly and separating the occipital and temporal lobes. In one of the brains the external perpendicular fissure and the fissure of Wernicke are so well developed that the occipital lobe is, as it

* Also more fully in the Proceedings of the Pathological Society of Philadelphia for 1885.

† The reader is referred to a communication by Dr. A. J. Parker published in the Proceedings of the Academy of Natural Sciences of Philadelphia, 1878, in which the *principle of the "vegetative repetition"* of fissures and convolutions is pointed out.

were, almost lopped off from the rest of the brain.

In addition to such fissures as appear to be of purely morphological value, we have others which bear no analogies to the normal fissures of either man or the apes. Prominent among these are numbers of anomalous fissures on the occipital lobes, especially on the lateral surfaces. There is also a tendency in some of the brains to the formation of transverse or perpendicular fissures on the frontal lobes. In one instance there are three such fissures present. Again, various fissures connecting the parallel, Sylvian, interparietal, and central fissures must be placed in the same category. One anomalous fissure deserves especial mention. It is a short one-forked branch, passing from the Sylvian directly down into the temporal lobe. It cuts deeply through the first temporal convolution, and the gyrus surrounding it completely breaks up the anterior portion of the parallel fissure. Evidently these fissures have a special significance which differs widely from that of the abnormal fissures which have homologies with those of the brain. To this significance we will shortly recur.

In addition to the two classes of abnormal fissures, these brains present striking facts of the under- and over-development of various parts. For instance, one brain presents an enormous over-development of the cuneus. The latter is so large that, instead of being wedge-shaped and small, it constitutes an enormous block of tissue, which is bounded below by a calcarine fissure depressed beneath its usual level, and anteriorly by a parieto-occipital fissure which in one hemisphere runs upward at *right angles* with the calcarine and in the other actually *runs forward at an angle of one hundred and twenty degrees.* In the same brain the lateral surface of the occipital lobe is also much enlarged. The frontal lobes, on the contrary, are small, and the fissures constitute mere shallow depressions on the surface. Here, then, is an instance of enormous over-development in the occipital regions, with an absence of development in the frontal regions. In another brain the quadrate lobule is so enormously developed as to be the most conspicuous part of the mesial surface of the hemisphere. This over-development is also shared by the inferior parietal lobule. The cuneus, on the contrary, appears unusually small. The surface of the quadrate lobule is made extremely complex by a number of deep and intricate fissures. Again, in another brain we have a *pli de passage supérieure interne* developed up to the surface,—a convolution which, as a rule, is developed only in the apes. Further, the various normal fissures of these brains frequently pursue aberrant courses. The Sylvian, parallel, and interparietal fissures are frequently deflected from their average courses by the over- or under-development of the convolutions bounding them. The absence or small size of some of the arching convolutions are, again, conspicuous illustrations of under-development.

In summing up the above results, it is evident that we have, first, abnormal fissures which are purely morphological in their significance, and, secondly, abnormal fissures which are purely pathological in their meaning. To the category of the first belong those fissures whose homologues are found in the apes or monkeys, and of these the external perpendicular may be taken as a conspicuous example. To the category of the second belong those fissures in which no homologies can be demonstrated. In this connection it is interesting to note that in the majority of the cases studied sclerosis of the skull coexisted. In almost every instance there had been a powerful hinderance to the growth and development of the brain. It is probable, therefore, that these anomalous fissures are the result of mechanical causes,—*i.e.*, of growth within an unyielding and an abnormally small space. In the development of these epileptic brains, therefore, both pathological and morphological factors must have played a part. There can be no doubt, however, that the pathological factor must have predominated, and it seems, indeed, as though it must have been at the very bottom of the altered and aberrant growth of the brain, and as though the morphological factors were only the necessary incidentals of a lowered and unbalanced brain-growth. Certainly the various instances of the hypertrophy and of the under-development of parts admit of no other explanation.

The study of these brains is very suggestive in regard to the essential pathology of epilepsy. The cardinal feature of epilepsy is, beyond a doubt, a nerve-explosion;

and whether this be a sensory, a motor, or a psychic explosion does not in any way alter the case. Now, the nervous system is continually storing up force, or, what amounts to the same thing, its protoplasmic equivalent. In the normal condition force is emitted in a relatively gradual manner, and this gradual outflow is dependent upon the interaction of *all parts* of the nervous system. In other words, the entire nervous system is in a condition of equilibrium, and the action of any one part is restrained or inhibited by the action of all the other parts.* Now, in order that this equilibrium may be maintained under the usual strains to which the organism is subjected, the nervous system must have a certain structure, which is the average structure, and which we have learned to regard as the normal. Now, in these epileptic brains certain parts are absent or poorly developed, others again are developed largely in excess, and others still are aberrant and bizarre. Surely it is not going too far to infer that in such a brain the maintenance of equilibrium must be confined to relatively narrow boundaries. In the normal nervous system there must be a certain play or, if I may use the expression, a certain elasticity of equilibrium,—a certain facility of readjustment between the different parts,—by means of which a *stable* equilibrium is secured. In a nervous system, however, where the parts are irregularly developed and therefore badly adjusted, even slight strains may be sufficient to disturb the balance. The parts cannot yield to or play upon each other, readjustments cannot take place, and some portion of the engine being, as it were, detached, suddenly runs down,—*i.e.*, an epileptic explosion takes place.

The above inferences appear unavoidable, though the writer does not by any means wish to imply that all epileptic brains must have the flaring abnormalities of structure presented by the ones he has studied. These cases, however, were all confirmed epileptics, mostly epileptic dements; one suffered from epileptic mania, and another was an epileptic imbecile. They certainly point out the importance of making a detailed study of the convolutions in autopsies of all cases with a history of epilepsy.

* See "Facts and Deductions bearing on the Action of the Nervous System," by Francis X. Dercum, M.D., *Journal of Nervous and Mental Diseases*, November, 1886.

AN ANALYSIS OF THE OCULAR SYMPTOMS OBTAINABLE IN EPILEPSY IN THE MALE ADULT.

Read before the Philadelphia Neurological Society, December 27, 1886,

BY CHARLES A. OLIVER, M.D.,

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THE clinical material for these observations was obtained at the State Hospital for the Insane at Norristown, Pennsylvania. The report embraces a study of all of the ophthalmic symptoms that could be gotten from fifty male adult epileptics, without reference to any past etiological factor or present mental condition. This method was pursued for several reasons, most prominent being—

First. A special form of symptomatic disease was taken in preference to any mental condition, because similar mental states may be present in the many and bizarre forms of nerve-lesion, masking and hiding the true significance of the objective symptoms peculiar to any one disease to such an extent as to render differentiation impossible.

Second. A definite variety of disease was chosen, so as to avoid obtaining mere percentages of the ophthalmoscopic signs (which, as a rule, have been limited to an arbitrary designation of the tint of the optic disk and the size of the retinal vessels) of the total number of cases occurring in one asylum,—practically giving, if at all correct, a *résumé* of the different varieties of optic-nerve color and retinal-vessel size of the gross amount of residents of that asylum: an answer which is liable to alter at any time through change of number of patients and character of mentality, or to be totally diverse from the results obtained by another observer placed in a different situation.

Third. A large percentage of similar cases was taken. This was done so that the different mental states which are seen during the course of any *one* disease might be united into a theoretical average case, which would represent a typical example of the physical and physiological conditions of that disease.

Fourth. Males were used. This is important, for, by exclusion of the female subject, any errors that might arise from additional ocular changes dependent upon

diseases which are peculiar to the sex are avoided.

It may be interesting to note that native American stock has been used. There is nothing absolutely important in this selection, because, by reason of many obvious causes, a true American type of man has not as yet been established among us; yet it was intentionally done, so that results obtained from subjects born on American soil could be contrasted and compared with statistics of foreign-born population, in order to see whether the data would exhibit any decided peculiarity in ratios.

OBSERVATIONS AND CONCLUSIONS.

First. Direct vision for form, as a rule, normal in both emmetropia and corrected ametropia.

Second. Accommodative action normal in due proportion to age and refractive error.

Third. Visual fields for form and color reduced to one-third to one-twentieth of normal areas.

Fourth. Visual fields for form and color regularly diminished, without any indentations or scotomata.

Fifth. Order of color-fields follows the regular physiological sequence, without transposition or reversion.

Sixth. Subnormal color-perception to a slight extent, as evidenced by faulty selection of delicate tints and shades containing low percentages of green and red.

Seventh. Pupils, as a rule, equal in size and alike in shape.

Eighth. Irides freely and equally mobile to light-stimulus, accommodation, and convergence.

Ninth. Extra-ocular motion intact in all directions. The presence of insufficiency of the interni in the majority of cases is readily explained by association with existing H + Ah, and probably has no relation to the epileptic condition.

Tenth. Optic disk superficially over-capillary, with a decided grayness in its deeper layers, showing a low grade of incipient optic-nerve degeneration.

Eleventh. Scleral ring rather more sharply cut and broader, especially to the temporal side of the disk, than in the healthy eye; this being probably due to a slight shrinkage of lowered nerve-tissue.

Twelfth. Fibre-layer of retina increased in thickness, as evidenced by dense and coarse massings of striation extending in all directions from the disk, these being more particularly marked in the superior and inferior portions of the eye-ground, even hiding the edges of the disk itself in many instances.

Thirteenth. Retinal vessels large in size and carrying rather dark-colored blood, this being more pronounced than usual with the veins.

Fourteenth. Retinal veins exceedingly tortuous, and in a few instances pulsating.

Fifteenth. Retinal arteries frequently wavy and sometimes tortuous, especially the temporal and macular twigs.

Sixteenth. Retinal lymph-channels visible in the majority of cases, particularly seen along the larger vascular distributions and at the vessel-entrance as glistening and yellowish-white opacities.

Seventeenth. No other visible changes of any significance throughout the eye-ground except a granular condition of the choroid in the macular region.

In addition, it may be mentioned that, as far as practicable, nearly all of the deep and superficial reflexes were obtained throughout the body. These, as a rule, were above normal, and presented some curious anomalies, which will be reserved for a later publication.

As was to be expected among this class of patients, many of the subjective signs were negative; but, withal, sufficient data have been produced to warrant proper conclusions in this direction. The results obtained from the study made of the visible ocular changes are of special value, and may be cited as of sufficient imporance to be useful in diagnosis.

Thanks are due to Drs. Charles A. Woodnutt and Henry Sykes, assistant resident-physicians, for good work and carefulness displayed throughout these researches.

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THE EMOTIONAL FACTOR IN THE CAUSATION OF GLYCOSURIA.

BY M. S. FALLS, M.D.,
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IN presenting for special consideration this quite obscure etiological factor, I do so believing it to be by far the most frequently causative of all the long list of predisposing and exciting agencies which have been cited by various authors. The

essential lesion of diabetes is usually held to exist in the region of the medulla (or, to be more explicit, in the floor of the fourth ventricle), and necropsies have shown degenerative changes in the meninges or in the nervous substance proper, such as neoplastic formations or spicules of bone which cause irritation, this irritation acting in a similar manner to the well-known laboratory experiment of mechanical stimulation of the ventricular floor. We are told by writers upon the subject that long-continued mental worry and excitement is also productive of diabetes, but the mechanism remains obscure.

The effects of mental strain upon the system, when examined carefully, are seen to be characterized by cardiac derangement, embarrassed respiration, sweating, alternate pallor and flushing of the face, muscular tremors, incoördination of speech, and sometimes diuresis, all of which plainly show increased activity of these medullary centres. As all organs when in a state of functional activity are more or less congested, and as prolonged congestion leads to irritation, and this to inflammation, it may then be stated as a fundamental principle that long-continued increased or excessive activity of a part will lead to degenerative changes.

Simple gastritis or gastric catarrh due to irritating articles of diet is an example of this. Here we have the gastric membrane thrown into a state of undue activity and stimulated beyond its power of endurance. As a result of this strain the integrity of the organ suffers, and disease becomes established. So it is with the kidneys and other organs. Indeed, the old axiom of "burning the candle at both ends" applies to all parts of the economy. Starting with this self-evident fact, let us turn our attention to the nervous system and analyze the phenomena of nervous action. The nervous system, especially the cerebrum, receives more blood than any other system, plainly showing that this fluid is essential for the proper performance of its functions. Moreover, of all the organs in the economy none require a period of such long inactivity for rest as the brain, and to produce this result an anæmic condition is necessary. The heart, which is apparently in a state of motion continually, nevertheless receives some relief during the interval between its beats. Severe exercise, however, will so augment its action that the period of repose between diastole and systole is insufficient, and morbid changes occur. Now, as healthy mental activity depends largely on the nutrition of the brain, we must expect to find intellectual efforts attended with increased vascularity, and so we do. How frequently does insomnia follow prolonged mental work! How uniformly does somnolence attend manual labor! The cerebro-spinal system, which contains numerous nerve-centres, acts not as a whole, but as a part. If, for example, one set of muscles are to be thrown into contraction, the governing centre of this group is called into a state of activity, and remains so as long as the muscular power is required; when the work is accomplished the centre relapses into a state of quiescence, during which time recuperation takes place. Should, however, a certain group be unduly exercised or abused, then does the exciting centre become so exhausted that paralysis results. This is well exemplified in writer's palsy and hammerman's palsy.*

It is unnecessary to state in detail the twelve centres in the medulla oblongata; but as these centres are brought into action by involuntary impulses, it is easy to understand how they may become so exhausted as to lose their power. Add now the effects of powerful emotions, such as prolonged shame, fear, chagrin, and the sense of some stupendous ordeal, which emotions act upon these centres, and what is the result? The continual congestion leads to irritation of these centres, which are in such close relationship with the diabetic centre that the irritation is propagated by both continuity and contiguity of tissue; the diabetic centre is consequently subjected to this stimulus, and glycosuria results. In chloroform-narcosis the subject, in either the first or the second stage, exhibits great fear, and is subjected to violent emotions; when the anæsthesia wears off, grape-sugar has been detected in the urine. Hysterical women, when recovering from an attack, pass large quantities of limpid urine, which in some cases contains glucose. These illustrate the effects of emotions upon the centres.

In summing up, I think we should ascribe to the psychical element a more important *rôle* than it now holds. In de-

* See Philadelphia Medical Times, October 16, 1886.

fence of this argument I submit the following cases, trusting that they may not be without interest:

William N., æt. 22. This patient had been out of employment for some time, his means were exhausted, and, receiving many insults on account of his poverty, he became melancholic and despondent. Two years ago his attention was called to the profuse micturition, accompanied by great thirst and rapid loss of flesh. His previous health having been good, the suddenness of the attack led him to seek medical aid early. Diabetes was suspected, which suspicion was confirmed by the chemical test. The patient passed from my observation some months ago not improved.

G. S., æt. 24. This young man, of a strong and robust constitution, entered upon the study of the law. Being of a nervous temperament, the fear of the impending examination and the mortification of returning to his home unsuccessful preyed upon him, and for two years despondency held full possession. Prior to his examination for his degree, fears were entertained for his health, and when adverse returns were made he broke down completely. A few weeks later, diabetes manifested itself, and, upon advice, he has gone South in hopes of recovering his former health.

REVIEW OF RECENT WORK IN MEDICAL CHEMISTRY.

BY WILLIAM H. GREENE, M.D.

ON THE PRECIPITATE FORMED BY PICRIC ACID IN NORMAL URINE, AND ON A NEW REACTION OF CREATININE.

WHILE studying the application of the picric-acid test for the detection of albumen, M. Jaffé has investigated the precipitate occasioned by this reagent in normal urine. When normal urine is treated with a concentrated aqueous solution of picric acid the liquid remains clear at first, but in the course of an hour a small crystalline precipitate separates. The precipitation is more rapid if the acid is employed in the form of fine powder (about one gramme to a hundred and fifty cubic centimetres of urine), or if an alcoholic solution of picric acid is used, twenty cubic centimetres of a five-per-cent. solution for every hundred cubic centimetres of urine. In the last case the clear liquid soon deposits a voluminous precipitate, consisting of a net-work of long yellow needles; if the reaction be hastened by brisk agitation the deposit is a crystalline powder.

This precipitate may be separated by boiling with water into uric acid and a substance which crystallizes in yellow needles: the latter constitutes the greater part of the deposit, and is a compound of potassium picrate and creatinine picrate. The precipitation of uric acid is more complete than by hydrochloric acid, and the author suggests the application of the reaction to the estimation of uric acid as well as creatinine, but has not as yet obtained satisfactory results.

When a solution of creatinine is treated with aqueous picric acid and a few drops of dilute potassium and sodium hydroxide solutions, the liquid instantly assumes an intense red color even in the cold. The color varies with the concentration of the solution from orange-red to blood-red, and remains unaltered for hours unless an excess of alkali has been used, when exposure to light changes it to yellow; the same change is brought about in a few minutes by the addition of acetic or hydrochloric acid. This reaction is well marked when the dilution of the creatinine solution is in proportion of one to five thousand, and may be applied to the detection of that substance in human urine. Creatine does not produce the color until after long standing; glucose gives a similar red after very long standing or on heating; acetone is the only substance which yields in the cold with the picric acid and alkali a similar color, but this is a reddish yellow that would not be mistaken for the pure red produced by creatinine.

ON THE DETECTION OF DISSOLVED COLORING-MATTER OF BLOOD IN THE URINE.

Carl Rosenthal finds that Heller's test—a red precipitate after boiling with sodium hydroxide and standing—yields no results when the urine contains less than one part of blood in a thousand. By working with five hundred cubic centimetres of urine, the hæmine test is capable of detecting one-half per cent. of blood. Struve recommends that the urine should first be rendered alkaline, then treated with tannin solution and enough acetic acid to make the reaction decidedly acid, and the resulting precipitate dried and rubbed with ammonium chloride; by treating with cold acetic acid hæmine crystals may then be obtained. If the urine be rich in albumen the precipitate should be burned and

the ash tested for iron by potassium ferrocyanide.

ON THE FATE OF MORPHINE IN THE SYSTEM AND ITS DETECTION IN THE URINE.

Julius Donath has not succeeded in detecting morphine in the urine of a morphiomaniac who in forty-eight hours took one and a half grammes of morphine hypodermically. In one case, after the injection of thirty-six centigrammes, morphine-sulphuric acid was also sought with negative results. The minimum quantity of morphine that could be detected after addition to the urine was two-tenths part per thousand: the process consisted in treating a litre of urine with a little hydrochloric acid and evaporating to one hundred and fifty cubic centimetres, precipitating with iodide of potassium and mercury and decomposing the precipitate in water acidulated with hydrochloric acid by hydrogen sulphide; the solution was concentrated, neutralized with ammonia, and evaporated to dryness, the residue extracted with hot alcohol, the extract evaporated to dryness, redissolved in hot water containing a little hydrochloric acid, and the solution allowed to stand twenty-four hours after neutralization with ammonia; the morphine then crystallizes.

ON THE DETECTION OF CHLOROFORM AND CHLORAL HYDRATE IN COMPLEX MIXTURES.

Dr. Charles Luedeking, who was the chemical expert in the Maxwell murder case, has published the results of some experiments made to test the Ragsky method for the detection of chloroform. This method depends on the decomposition of chloroform vapor into chlorine and hydrochloric acid by passage through a red-hot tube. The experiments showed that "by the process of decomposition no substances are generated which would vitiate the tests for chloroform by the Ragsky method. Chloroform, when it has caused death by inhalation, can with certainty be detected in the body four weeks after death, and, notwithstanding its volatility, it is certainly retained in the viscera in large amount during this time."

Hildebert Baron Tiesenhausen has studied the application of the extraction-method used for alkaloids to the separation of chloral hydrate from animal mixtures. The best results were obtained by agitation with absolute ether and with ethyl acetate; light petroleum, chloroform, and benzine did not yield good results. Five milligrammes of chloral hydrate may readily be separated from seventy-five cubic centimetres of liquid by two agitations, but one milligramme could not be separated by repeated shakings. The author finds that the most delicate reaction for the detection of chloral is that of Hofmann, which depends on the formation of benzo-isonitril when an alcoholic solution of sodium hydroxide and aniline is warmed with chloral, the benzo-isonitril being recognized by its odor: one-sixty-thousandth of a gramme may be thus detected. Then comes the reaction with naphthol,—a deep-blue color by the action of strong potassium hydroxide solution and α or β naphthol,—which reveals the presence of one-twenty-four-thousandth of a gramme: this test is of special value in doubtful cases, for, so far as is known, chloroform is the only substance which responds to it, and the reaction with chloroform is owing to the decomposition of that body by the alkaline hydroxide. Tiesenhausen recommends agitation with ether for the separation of chloral from the contents of the stomach, enough chloral being often obtained in this manner to respond to the naphthol reaction. From blood and urine, however, the most satisfactory results are obtained by distillation. No chloral could be detected in either the lungs or brains of poisoned animals.

THE GASTRIC JUICE DURING DEFICIENT INGESTION OF CHLORIDES.

Von Mering and Cahn, having investigated the effect on the gastric juice of cutting off the supply of chlorides, have published the following conclusions. The secretion of pepsin is independent of that of hydrochloric acid, and continues though no hydrochloric acid be present in the juice. When the supply of chlorides is cut off the secretion of hydrochloric acid diminishes, and when it ceases altogether it is replaced by no other acid, the juice remaining neutral. These results refute the theory that hydrochloric acid is formed in the stomach by the action of other acids on chlorides. When there is a complete absence of hydrochloric acid the contents of the stomach still contain chlorides. As soon as an excess of chlorides is present in the organism an abundant secretion of hydrochloric acid begins.

ON THE POISONOUS ACTION OF POTASSIUM CHLORATE.

Fourcroy and Alyon considered that potassium chlorate gives up part of its oxygen when taken into the system, and since the experiments of Binz and Marchand this explanation has been generally accepted as accounting for the poisonous action of that compound. B. J. Stokvis contradicts this view, basing his opinion on experiments of his own, of W. C. Kimmyser, and of H. C. van Gorcom.

Kimmyser investigated the elimination of chlorate in his own urine and in that of dogs on which he had experimented. He determined the amount of chlorine directly, after fusion with sodium carbonate, and after combustion with potassium nitrate. He thus found that, of four grammes of sodium chlorate, there was eliminated unchanged in his own case 2.277 grammes; in the cases of three dogs, to which had been administered 1, 4, and 16 grammes respectively, he found 0.896, 3.618, and 13.53 grammes. On the days when the sodium chlorate was administered and the doses were given hypodermically, there was an increased excretion of chlorides, and usually also of urea; this increase is to be attributed not to a reduction of the chlorate, but to a drain on the system, for a corresponding decrease from the normal excretion of chlorides was noticed on the following days. In this respect the action of sodium chlorate is identical with that of sodium nitrate, as Kimmyser determined by experiments on dogs whose urine had been rendered free from chlorine by inanition: he therefore concludes that there is no proof of a reduction of the chlorates in the economy. The reduction is also denied by Stokvis, Isambert and Rabuteau, and Von Mering, whose results are in harmony with those of Kimmyser.

The small quantity of chlorate that is unaccounted for in the urine is to be credited to passage into the secretions, which takes place even after the ingestion of small doses, to the slow elimination, to reduction in the urine, and to experimental errors. Kimmyser finds that a one-per-cent. solution of sodium chlorate in urine suffers a reduction of twenty-four per cent. of the contained salt by standing twenty-four hours at 20° C.; the reduction does not take place at the freezing-point or in acid urine, and it is diminished when the urine has been previously boiled: Kimmyser considers it to depend on the beginning of putrefaction. He also regards the reduction by blood as owing to complicated putrefactive processes which occur only as the blood loses its vital properties. Methæmoglobin and hæmatin result in the latter case; and that the change does not take place in living blood was shown by the fact that the intravenous injection of sodium chlorate in dogs was followed by the appearance of albumen and sugar in the urine, but no methæmoglobin, which passes very readily from the blood to the urine in these animals. However, after repeated doses, inflammation of the kidneys is set up, and red corpuscles pass into the urine: these are the source of the methæmoglobin which has been repeatedly found in the urine in cases of poisoning by chlorate.

The poisonous action of potassium chlorate produces heart-failure, according to Jacobi, and this has been attributed by Leichtenstern to the direct influence of the potassium; it does not differ from the action of potassium sulphate or that of potassium chloride in corresponding doses. The authors named agree that toxic results follow only when the dose is large, the solution concentrated, or when repeated small doses on an empty stomach have resulted in the ingestion of a considerable quantity. Van Gorcom finds that sodium chlorate is not more poisonous than sodium chloride in corresponding doses, whether the administration be by the stomach or by intravenous injection.

ON THE PRESENCE OF IRON IN THE LIVER.

Investigations on the quantity of iron in the liver are of but little value when the organ contains blood. S. S. Zaleski has studied the problem after removing all the blood by washing out the vessels with a two-and-a-half per cent. solution of saccharose, by which the liver-cells are in no manner altered. While iron was found to be constantly present in the liver-tissue, its proportions varied very considerably. In all the morphological constituents of liver-tissue it occurs in combination with albuminates and with nuclëin. One of the nuclëin compounds gives the ordinary reactions of iron, while the others do not; of the latter, Zaleski has isolated a compound which he calls hepatin. In these compounds the iron is present in two, if

not in three, states: ferrous, ferric, and ferroso-ferric. Ferrous oxide was found in fifty-two per cent. of the livers examined. In forty per cent. the phosphoric acid present was not sufficient to combine with the iron.

SNAKE-POISON.

R. N. Wolfenden finds that the poisonous properties of cobra-venom are not owing to bacteria or any living organism, nor to any alkaloid or ptomaïne, nor to cobric acid, as was described by Blyth. The so-called cobric acid consists of crystals of calcium sulphate. The venom is sometimes faintly acid, sometimes neutral. The poisonous properties are due to the proteid constituents, which are: (1) Globulin, which is always present and kills by producing asphyxia. (2) Syntonin, which may be precipitated along with the globulin by magnesium sulphate. It passes through parchment-paper to a certain extent when submitted to dialysis, and the toxic action of the acid dialysates is caused by this proteid, not by cobric acid. Its action resembles that of the globulin, but is more feeble. (3) Serum-albumen, which causes paralysis. (4) Traces of hemialbumose in some specimens. Doubtful traces of peptone are considered as accidental.

The venom of the Indian viper contains neither toxic acid, alkaloid, nor any living organism. The poisonous constituents are: (1) globulin, which greatly preponderates; (2) a small proportion of serum-albumen; (3) a proteid which possesses many properties of an albumen. True peptones were not found, and the author considers that the substances described as peptones by Mitchell and Reichart in crotalus-, copperhead-, and moccasin-venoms are really albumoses.

A NEW REACTION FOR THE DETECTION OF SMALL QUANTITIES OF HYDROCYANIC ACID.

G. Cortmann has applied to the detection of hydrocyanic acid and the cyanides Playfair's reaction, which results in the formation of a nitroprusside, the latter being recognized by its reaction with sulphides. The liquid to be tested is mixed with a few drops of potassium nitrite solution, from two to four drops of ferric chloride solution, and dilute sulphuric acid sufficient to cause the brownish-yellow color of the basic iron salt to change to pure yellow. The mixture is then heated to incipient boiling, and, after cooling, is treated with a few drops of ammonia; the liquid is filtered, and the filtrate mixed with one or two drops of a very dilute solution of colorless ammonium sulphide. If hydrocyanic acid was present in the liquid, a beautiful violet color will at once appear, changing to blue, green, and yellow in the course of a few minutes. If only traces of hydrocyanic acid be present, the color is bluish green, and rapidly becomes yellowish. The limit of the reaction is placed at 1 : 312,500, ten cubic centimetres of liquid being used: it is consequently more delicate than the Prussian-blue reaction, but less so than the ammonium rhodanate test.

TRANSLATIONS.

THE TREATMENT OF SYPHILIS BY SUBCUTANEOUS INJECTIONS OF CALOMEL.—Scarenzio's treatment, it will be remembered, consists in the subcutaneous injections of calomel in suspension in glycerin (ten centigrammes of calomel for one gramme of glycerin). This treatment is said to be very efficacious, several injections under the skin, during the space of about four months, of forty centigrammes of calomel in all, being sufficient: it not only counteracts the accidents which appear in the evolution of the disease, but also prevents their return. M. Balzar, desiring to try this treatment at the Lourcine Hospital, but fearing the irritating action of glycerin and the great pain which it causes, was induced to seek for another medium for the calomel, and struck on vaseline oil.

Two subcutaneous injections of the pure oil were at first tried, which proved absolutely painless, and leaving after them neither irritation nor induration. A severe case of syphilis was chosen. The patient was a young woman, aged 19, who had been suffering from the disease for about five months and was in her sixth month of pregnancy. Large patches covered the labia majora and the posterior portion of the anal orifice; patches were also observed on the left tonsil; general roseola, with large macula; abundant papulo-squamous eruptions on the abdomen and the lower limbs, and general adenopathy. The patient had been submitted for some time to treatment which remained absolutely without effect,—namely,

two Dupuytren pills daily, and also two spoonfuls of syrup of iodide of iron. Compresses moistened with Van Swieten's liquor diluted with distilled water were applied to the vulva during the night; cauterizations with a one-twentieth solution of nitrate of silver, gargles of chlorate of potassium, and baths.

On the 4th of October a first injection of two and a half centigrammes of calomel in fifty centigrammes of vaseline oil were made in the back. The injection was in no way painful. The following days a soft tumefaction showed itself, and was slightly painful at the injected part.

On the 11th of October a fresh injection of five centigrammes of calomel was made in the lumbar region, and in a few days the tumefaction attained the volume of a hen's egg. At one time the formation of an abscess was feared; but at the end of about ten days the indurated tumefaction ceased to grow, and was followed by progressive diminution.

Now, during this period the cutaneous manifestations, which had been so rebellious to the former treatment, had diminished rapidly.

Already on the 25th of October the roseola, together with the large patches on the vulva, had disappeared; of the latter there remained but a dry macula of a violet color. The general state was excellent, and the pregnancy was following its normal course.

On the 18th of November the amelioration still continued, and the induration on the spot of injection had diminished to two-thirds of its original size.

Hæmatoscopic Researches on the Normal Proportion of Hæmoglobin.—M. Henocque made the following communication recently to the Paris Biological Society respecting the normal quantity of oxy-hæmoglobin in human beings and in different animals. This communication forms the most complete statistic that has been yet furnished on this point.

Among two hundred and eight human beings, the normal proportion was between thirteen and fourteen; five per cent. had been noted fifty times; the proportion of thirteen per cent. is more common among inhabitants of towns.

For monkeys the normal proportion (in Paris) is about thirteen per cent.; for dogs, fourteen per cent.; for guinea-pigs, fourteen per cent.; for domestic rabbits, ten per cent.; for pigeons, eight to twelve per cent.; for lizards, three to seven per cent.; for fish (gudgeon), three to four per cent.

Action of Sulphide of Carbon on the Animal Economy.—A few years since, Signor Tamassia called attention (*Canstatt's*, p. 420, 1881) to certain changes of an hæmatic order, and mentioned different symptoms (dyspnœa, hemorrhagic infarctus of the lungs) following acute intoxication with sulphide of carbon, owing to asphyxia, which he attributed to alteration of the blood-corpuscles. Schwalbe also stated in 1884 that he had produced melanæmia and melanosis in the different organs of rabbits by slow intoxication. The importance of this fact with regard to the pathological physiology of malarial pigment induced MM. Kiener and Engel* to satisfy themselves of the truth of the phenomena recorded. They therefore sought to ascertain whether there did not exist some connection between this pigmentation and the changes in the red corpuscles described by Signor Tamassia. They made experiments upon a number of rabbits which had been intoxicated in different ways. Poisoning which was induced by strong doses resulted, both preceding and after the death of the animal, in an alteration of corpuscles which consisted in changes of an amœboid character. But in chronic poisoning neither this alteration nor rapid disappearance of the corpuscle was observed. The urine never contained hæmoglobin. The malarial pigment described by Schwalbe was never present. MM. Kiener and Engel have constantly encountered, in cases of slow intoxication followed by death, an accumulation in certain organs of a particular kind of pigment, which was ferruginous and derived its coloring-matter from the blood. Finally, the exaggerated formation of this ferruginous pigment in the spleen, marrow, portal vein, liver, and other organs, added to the morphological alteration of the corpuscle during acute intoxication, warrants the belief that sulphide of carbon acts as an agent attacking the vitality of the red corpuscles, stimulating its physiological waste notwithstanding the absence of hæmoglobinuria and methæmoglobinuria. V.

* Paper read by M. Charcot for Drs. Kiener and Engel at the Académie des Sciences.

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EDITORIAL.

ON THE DEFINITION AND EXACT MEASUREMENT OF CURRENTS IN ELECTRO-THERAPY.

AT a recent meeting of the Biological Society of Paris, M. Vigouroux communicated a note on the dosage of currents in electro-therapy, in which he criticised the usual methods of indicating this. A few years ago, in order to give an idea of the force of a current the number and nature of the elements employed to produce it were stated,—that is to say, its electro-motive force. At present, currents are employed according to their intensity, which means the quantity of electricity passing in a given time. As this quantity may be very accurately determined in ampères, to define the current would seem a very easy matter; but this is readily seen to be illusory, at least so far as the appreciation of its physiological effects is concerned. Take, for example, two patients for whom authors advise a force of five milliampères. It is found, upon trial, that the electrical resistance in the two patients is very different. In order to obtain five milliampères, thirty-six Daniell elements may be required in one case and only twelve in another. Under these conditions, it cannot be said that the two patients have been electrized in the same degree. They have received the same quantity of electricity, as shown by the galvanometer, but this quantity was transmitted to them under an electric pressure three times as great in one case as in the other, and this the galvanometer did not show. Two currents having the same intensity are not, therefore, equivalent in their physiological action. The chemical and magnetic effects of a current depend entirely on the quantity of electricity; the thermic and mechanical effects depend both on the quantity and on the electro-motive force. Now, in the present state of science, it is impossible to say in what degree the action of the current upon the organism is due to its chemical or to its thermic and mechanical properties. Therefore quantity is as vague a guide as the electro-motive force. Moreover, a given electro-motive force may produce very different intensities, and this to such a degree as to render the application of this mode of valuation absolutely dangerous in patients having a feeble resistance. It is also observed that in order to obtain a given intensity recourse may be had to very different electro-motive forces. This gives rise to a double uncertainty, which cannot be avoided unless the resistance offered by the patient is known beforehand; and this, of course, is never the case. The only rational manner, therefore, of defining the currents is to specify both the electro-motive force and the intensity, according to the custom adopted in manufacturing industries. Although the whole question concerning the influence of these two factors of electric energy in regard to their physiological effects has yet to be resolved, the means to do this, the author thinks, are at hand. And in this connection it would be interesting to compare the respective value of the electro-motive force and the intensity in the usual operations in electro-therapy, as the above considerations concerning the galvanic current apply also to the other forms of electric discharge. Existing apparatus may be considered as the extremes, of which the intermediary is wanting: on the one hand we have machines with an enormous potential and minimum intensity, and on the other hand, batteries of feeble potential and relatively great intensity. The author also pointed out the advantages of a rational system of defining the current,

and made the following suggestions. The electro-motive force and the intensity of a current passing through a part of the body being given, the value of the resistance of this part is then obtainable by simple division. Moreover, on multiplying the electro-motive force by the intensity, the energy of the current is obtained in volt-ampères, or watts. It is to be remembered, however, that the sole indication of the energy is no test of the physiological value of the current. The reason is very simple: an energy represented by twenty watts may be either the product of twenty volts by one ampère or of forty volts by one-half an ampère, and so on. With an equal number of watts, it is clear that a current of great intensity and of feeble electro-motive force would have an action upon the organism altogether different from a current inversely constituted. The total value of the energy is not so important as the respective value of its factors. In order to determine in a rapid manner the intensity and the electro-motive force, the author makes use of the Deprez-d'Arsonval galvanometer, with vertical needle, which possesses the advantage in a medical point of view of being completely astatic. The scale is divided into $\frac{10}{1000}$ ampères, and has two hundred of these divisions. A special commutator is so arranged as to place at will the galvanometer in the circuit of the electrodes or in derivation. The instrument is graduated for fifty volts. In order to determine the resistance it is not even necessary to wait for the current to produce its full effect. But in such cases three readings should be made,—two for intensity and one for electro-motive force. The number of volts divided by half the sum of the $\frac{10}{1000}$ ampères will give the resistance quite as accurately as more laborious methods.

THE MEDICAL REGISTER is a new weekly medical journal, edited by Drs. John V. Shoemaker and Wm. C. Wile, to be published in Philadelphia, the first issue of which will appear February 8. If it is not an aggressive and progressive medical journal, it will disappoint expectations.

THE RELATION BETWEEN THE FUNCTION OF GLYCOGENESIS AND ANIMAL MOVEMENTS AND CALORIFICATION.

AT a recent meeting of the Académie des Sciences, M. Chauveau made a further communication concerning his researches upon the hepatic functions and upon the active part played by glucose and glycogen in the production of motion and heat in animals. The glucose which disappears in the capillaries reappears and combines with the oxygen in order to be transformed into water and carbonic acid in the midst of the tissues, and this is the case in all the organs, including the muscles. But as regards the latter there is a supplementary act performed: they are insured from possible insufficiency of the combustible—that is to say, of glucose—by the store of glycogen which they themselves contain. This provision, which may be compared to that of accumulators in electricity, is made during the repose of the muscles. Only a part of the glucose then which disappears in the capillaries is directly given up for combustion; the other part, on losing its water, is transformed into muscular glycogen,—that is to say, into reserve combustible. The oxygen employed in organic combustion is especially taken up by the carbon of the glucose.

After demonstrating the important part played by the glucose of the blood in the production of heat and action, M. Chauveau concludes that no new impulsion, and consequently no mechanical action, can take place in the animal economy without the actual participation of the hepatic gland. The liver is the indirect collaborator of the muscles in the execution of movements: it becomes more active as a glucose-producer whenever muscular effort is going on in any part of the economy. As long as the hepatic cells furnish glucose to the blood in sufficient quantity, the animal continues to generate

the necessary quantity of heat for the working of the organs and for keeping up the temperature of the body. Let this glycogenic function relax and the glucose disappear from the blood of the vessels, then organic combustion will rapidly languish, and death will take place from arrest of calorification. The latter conclusion is justified by what takes place in animals submitted to prolonged abstinence: as the temperature decreases on the approach of death, the sugar disappears from the blood as well as from the lymph. If the animals die without decrease of temperature, glucose may still be found in these fluids.

FLOATING LIVER.

AMONG a number of interesting and instructive specimens shown at the last meeting of the Philadelphia Pathological Society was a floating liver, removed post mortem by Dr. Formad from a patient of Dr. Keen's. The condition is one of great rarity, and we do not remember any reference to the subject in the Transactions of our Societies. The patient was a German woman who had borne many children and had had for years a pendulous abdomen with great relaxation of the skin and separation of the recti muscles. The liver was very freely movable, and the dragging pains were a source of great discomfort. Dr. Keen proposed, for the relief of the distressing symptoms, to remove some of the redundant abdominal wall and fix, if possible, the liver; but meanwhile the patient died suddenly of renal disease. The ligaments of the liver were much relaxed, particularly the suspensory band, which was greatly elongated. The organ was not enlarged, and appeared healthy. It is to be hoped that Dr. Keen will give the profession a detailed account of this case.

The occurrence of floating liver is doubted by some writers. Legg a few years ago reviewed the recorded cases and came to the conclusion that the condition was not well established. Recently, however, the subject has been elaborately studied by Landau, of Berlin, to whom we are indebted for the valuable monograph on floating kidney. This writer claims that it is a much more common affection than hitherto supposed, and gives notes of sixteen cases. Thirty-one instances are reported in literature,—twenty-seven in women and four in men. The most common cause is a relative increase in the capacity of the abdomen, due to umbilical hernia, prolapse of the uterus, or, what is more common, an absolute increase associated with the so-called pendulous belly. The symptoms are indefinite, and consist chiefly of radiating pains in the upper part of the abdomen, particularly on the right side, dyspepsia, constipation, and venous congestion of genitals and rectum. In many instances the distress is very great: some women are relieved only in the later months of pregnancy, when the uterus acts as a support to the liver. The diagnosis rests upon absence of liver-dulness in the normal position and the detection of a large movable mass in the abdomen which has the form and outline of the liver. The examination in a recumbent posture frequently causes the condition to be overlooked. A point to which the writer does not refer is the possibility of mistaking a large spleen for a floating liver. Such an instance was brought to our notice a few years ago. There was in the recumbent position no liver-dulness, and the abdominal cavity was occupied by a large movable mass, but a careful inspection in the erect posture showed a narrow strip of liver-dulness in the normal position, and the tumor proved to be an enormously enlarged and very movable spleen, which, when the patient was lying down, pushed up the intestines and so obliterated the liver-dulness.

The relief of the condition is effected

chiefly by measures directed against the pendulous abdomen. Douches, friction, and electricity aid in establishing the contractility of the muscles, but the greatest benefit is obtained from a properly-constructed abdominal bandage. So far as we know, operative procedures have not been required.

ATAXIC ARTHRITIS.

THE obscure affection of the joints sometimes met with in cases of locomotor ataxia, and which is generally described under the name of "Charcot's disease," was recently under discussion before the Berlin Medical Society, and was made the subject of a singularly lucid discourse by Professor Virchow. The veteran pathologist seems still to be *facile princeps* in the science to the development of which he contributed so greatly, in spite of his more recent coquetting with politics and state-craft. Virchow is of opinion that the changes in the joints in the ataxic arthropathy do not differ essentially from the local changes in arthritis deformans, or so-called rheumatic gout. In the latter, he says, the first changes begin in the articular cartilage, and the other pathological alterations occur subsequently; and although there are usually no clinical evidences of inflammation of the joints, the process is undoubtedly inflammatory. The cartilage is thickened in spots, the cells being enlarged and often greatly increased in number. Then follows the peculiar stage of cleavage, when the swollen parts separate into layers. Afterwards come fatty degeneration of the proliferated cells, absorption of the cartilage, and exposure of the bone, resulting in an eburnation of the osseous surface. The atrophy of the cartilage is secondary, not primary; it constitutes the retrogressive stage of a previous proliferating process.

In the joint-affections of tabes dorsalis the processes are similar, although more rapid and marked in effect. The changes are more intense in degree and greater in extent.

If the question is asked, continues Virchow, What is the cause of such great alterations? one cannot doubt perhaps that in locomotor ataxia the nervous supply causes a deteriorated nutrition of bone, and that the badly-nourished bone more readily succumbs to inimical influences than healthy bone would. But when one attempts to explain a local morbid process confined to a single joint, as arising from a general spinal disease, one meets with a difficulty. A local cause is necessary for the production of the joint-disease. On account of the predisposition produced by the deteriorated nutrition, the local cause acts with more intensity than in other cases.

The early occurrence of joint-diseases in some cases of locomotor ataxia raises the suspicion that changes due to some other cause may have begun in the joint before the spinal disease began. Syphilis, for example, sometimes produces joint-affections which may be confounded with the joint-troubles of locomotor ataxia.

The ataxic arthropathy is, according to Virchow, not an essential part of the tabetic process. This may furnish the predisposition by deteriorating the nutrition of the bone; but some local cause is necessary to produce the local disease.

It is contrary to sound logic to attribute the disease in the joints altogether to the spinal sclerosis.

A JOURNAL OF BACTERIOLOGY.

THE prominence which the study of minute organisms as causes of disease has assumed in recent medical investigations has given rise to a demand for a special medium of intercourse between students of micrographic pathology.

To meet this demand, a well-known German medical publisher, Gustav Fischer, of Jena, has undertaken the publication

of a weekly, to be known as the *Centralblatt für Bacteriologie und Parasitenkunde.* The editor is Dr. O. Uhlworm, of Cassel, and the prominent collaborators are Professor Leuckart, Dr. Lœffler, and Dr. George M. Sternberg, U.S.A. Original articles will be printed in English, German, and French.

American bacteriologists are requested to send copies of original articles to Dr. George M. Sternberg at the Johns Hopkins University, Baltimore, in order that abstracts of the same may be promptly brought to the attention of specialists in this department throughout the world. Animal parasitology will also find a medium of publication in the *Centralblatt.*

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

THE Graduation-Thesis in Paris.—The thesis that is presented at the Paris School of Medicine and at the other faculties in France is very often a paper of real scientific value, for many reasons: first of all, the candidate for the diploma is required to sustain his thesis in public before a jury of four professors, who ask him—or her, for Paris is liberal enough to admit the women—some very searching questions as to why he failed to treat on such and such a point of the subject written on, and what he knows about it. Given the fact that the Professor has the right to refuse the thesis and refer the poor student to his studies for a period of three months, it becomes very inconvenient if one is not thoroughly posted on all the points of the subject he undertakes to write upon. Again, the thesis must be a printed one, and each candidate has to present to the faculty one hundred and sixty-three copies of it printed in clear type at his own expense. These copies must be delivered to the faculty four days before the student is called up to discuss its points with the jury of professors, and long before this eventful day he must have already presented a manuscript of the thesis to the faculty for their acceptance and for the purpose of having a president of thesis named. This is one of the professors, and after he has examined the thesis permission to print is given. The hundred and sixty-three copies of the thesis are distributed among the faculties in France and those of other countries in exchange for copies of their published theses. We notice on the list almost all the faculties in Europe, including several in England, and even in Canada, but none in the United States of America! Is it owing to the kind of thesis that is made in America? Have our papers no value because they are not printed or otherwise publicly quoted? We do not believe so; but, as the subject would take us too far, we leave it to those who are more directly responsible for this state of things to answer.

To return to the French theses, all these formalities make them of considerable value. They are mostly made on some special subject, often taken from cases seen in the hospitals, which are very well worked up, and they usually give the latest developments in regard to the matter, with a full bibliographical and historical sketch, making in fact a most complete monograph of the subject. Certain prizes are given by the faculties every year for the best theses, and they are very often quoted in the clinical and other lectures given by the best professors in Europe. We have known of students who have passed all their technical examinations and then have taken a full year to prepare their thesis. Outside of the circulation spoken of, however, they are not so well known, and, as they present very often original matter, we shall from time to time draw on this storehouse of knowledge.

Among the latest ones are several on therapeutical subjects. One by M. A. Pignoret gives his ideas of the use of "Salicylate of Sodium in Acute Orchitis complicating Gonorrhœa." He states that Dr. E. Henderson, of London, was the first to write on this subject, in the *Lancet* (1882, page 1027). This author gave it in twenty-grain doses every hour with great success, and on the pain being relieved he stopped or reduced the dose. The present writer details a number of personal observations in which he used the remedy in the Paris hospitals, proving that it gives good results. He proceeds to give a full history of the malady, which is clever, but not new to your readers, and he sums up his conclusions as follows:

1st. In gonorrhœal orchitis, salicylate of sodium will bring about a diminution of pain in a few hours, and in a longer time it will cause its disappearance.

2d. It acts well above all in cases that have acute epididymitis.

3d. When the inflammation of the cord is intense, the remedy will fail.

4th. In the large number of cases treated, the resolution of the swelling commenced very much quicker than in cases submitted to other treatment, and in a week or ten days the cure was complete, leaving nothing but a slight induration.

5th. This medication, then, has the advantage of allowing the patient to get about within a day or two at most. It is simple,

harmless, and appears to be superior to all other forms of treatment in this complication.

Another thesis, by a M. G. C. Coremenos, is on the "Use of Naphthaline." He shows that it was employed long ago, in 1843, by Dupasquier, in doses of fifty centigrammes up to two grammes, given in syrup, in cases of pulmonary catarrh. Naphthaline is insoluble in water, and should be triturated for a long time with gum, when it may be given in teaspoonful doses three times a day. Its use as an expectorant is still continued, and outside of its rather disagreeable taste it is excellent for this purpose. It has also been employed as a remedy in skin-diseases, such as lepra vulgaris and psoriasis, and again as an antiseptic dressing. Mention has already been made in our letters of its employment as an intestinal antiseptic in typhoid fevers in the service of Professor Bouchard, in Paris, and it will be recollected that he claims that it is the least toxic of the intestinal antiseptics, being some sixteen times less so than iodoform. It has been used also with success in combination with powdered charcoal in chronic forms of diarrhœa, particularly in children, proving especially useful when there were intestinal parasites. The favorable action of naphthaline when fetid urine exists is shown by the writer of this thesis, and he advises its use in the powdered form, given in doses of one-half up to one gramme. As high as five grammes per day may be given, in doses of ten to twenty centigrammes of the drug mixed with equal parts of sugar and perfumed with a little mint. Naphthaline has also been employed lately made up in capsules of keratin, which would digest only in the intestines. The author sums up its virtues as follows:

1st. From our experiences with the lower forms of vegetations and parasites, naphthaline possesses the power of arresting the development of the inferior organisms.

2d. In the powdered form it is sixteen times less toxic than iodoform, and it is a much more powerful antiseptic.

3d. Taken internally, it possesses all the advantages of charcoal powder without any of its inconveniences.

4th. It has given most remarkable results in patients who suffered with fetid urine.

5th. It not only destroyed the microbes, but also the larger forms of intestinal parasites. It finally has a good use in agriculture.

Professor Peter has given up his didactic lectures at the Faculty, and is now a clinical professor at the Hôpital Necker. We will attempt to give a *résumé* of a late clinical lecture of his at the hospital, on "The Present Medical Doctrines compared with Clinical Facts," but it would be difficult indeed to transcribe his inimitable style, and his works must be read to appreciate his lectures fully. As usual, he is after the microbists with a sharp stick. After showing that Laennec had made a great stride with his discovery of auscultation, and that he inaugurated precision and analysis in diagnosis, then that Corvisart took up Avenbrugger's discovery of percussion and demonstrated the physical alterations in living matter, with all its signs and lesions, Dr. Peter said, "Then came pathological anatomy into our medical doctrines, with more exactness; next came histological pathology, and we thought with the cells that we had at last reached the bottom; but no, for along came the microbe, which was born of the doctrine of parasites. According to those who believe in this doctrine, the microbe is not the lesion, but it is the agent of it, and for these persons there are no longer any local diseases, but only general maladies. For instance, pneumonia is not a local lung-disease; it is a general malady of infectious character, caused by the pneumonococcus, which, getting into the organism, first causes a fever, and then the local lesion of the lungs. This pneumonococcus, it seems, can get into several organisms at once, and then there is an *epidemic* of pneumonia; and it can also walk out of an infected organism and invade another: this is *contagion*. Even Virchow, the founder of cellular pathology, who was opposed at first to the famous bacillus of his countryman, Koch, has also capitulated, and he now sees in disease only a war of the microbe against the cell, a sort of Liliputian pathology. Koch, on the other hand, is only half triumphant, because it is easy to show him that the morbid disorders are not at all proportional to the number of the bacilli, and he is forced to capitulate in his turn, and now takes refuge in an hypothesis that there is a ptomaine secreted by the bacillus, and that this last machine is what does all the harm. Pathology is dominated at present by pathogenesis, and this by bacteriology; every day they come to tell the medical public, who look on astonished, that such or such a disease, one after another, is manifestly of parasitic origin.

"It seems that there are bacteria that do all sorts of things: the capsuled kind in the saliva do good in the mouth, and do all the harm in the lungs, where they manufacture pneumonia; others create hyperthermia in typhoid fever and algidity in cholera: thus some blow hot, and others cold. They find altogether too much. It is a regular overflow. This reckless pathogenesis may be considered as a sort of intellectual gymnastics, good for the brain; but your regular doctor is necessarily a utilitarian. Finding himself always in presence of disease, he tries to apply these new scientific notions; for instance, injections into the lungs have been tried, without, however, thinking how irrational such a medication is, even according to their own theories; for if only one pneumonococcus is left untouched by the injec-

tion the disease must persist. We can only say in favor of this method that there have been no accidents: the patients have more vital resistance than they think,—that is all.

"It has also been proposed to use medical antisepsis, imitated from the surgical. It is a generous idea, but as chimerical as the rest of them; for surgical antisepsis is based on the idea that the patient is a healthy individual, but that he has an open wound, and that it may allow the germs of the air to enter the body and to infect the organism. But for the medical doctor the situation is not the same: he is in presence of an organism that is already invaded, by their own hypothesis, by a microbe; so the thing to do is not to prevent him from getting in, but to get him out.

"I do not need to insist on this point, for it is already well known that the practice of medical antisepsis is far from being encouraging in its results. The same may be said for the antirabic or antihydrophobic inoculations, which are as irrational in principle as they are inefficacious in reality. They have the pretension (which is contrary to facts) to prevent the ripening of a disease which is already in incubation. Vaccine matter has no such power over incubating smallpox. These inoculations are useless," [poor Pasteur!] "as France has seen, in the year that is now drawing to a close, a mortality from hydrophobia equal to that of other years: that is, thirty cases, of whom fourteen died after these inoculations and the other sixteen without.

"So you see what modern medicine has gained so far from their new doctrines. Now what does the clinic say? By clinic I mean the *history of the patient*, for we have to do with pneumonical *patients*, not with the pneumonia itself, not with infection, nor with the lesion, but with the *form of the fever*, mucous, inflammatory, or nervous. We have, above all, to do with those *morbid accidents* that come on in the course of disease, such as congestions, hemorrhages, fluxions, or gangrene, *and according to them to modify our medication*, which proves, if proof be needed, not only the inanity and inefficacy, but also the danger, of any single treatment, such as the microbicide medication. We have to treat the *morbid factor*, which we can modify and even suppress.

"The clinic must rest on an attentive examination of the patient, full details of his disease, and all its morbid elements, taking an account of his strength and exploring the nervous system from the cerebrum to the sympathetic, with its several plexuses; then the state of the digestion, respiration, and circulation. Pathogenesis is the romance of disease, but our clinic shall be the *special history of each patient.*"

New Incandescent Ophthalmoscope.— M. Giraud-Teulon has just presented to the Académie de Médecine a new instrument by which he substitutes a direct light for the usual lateral reflected one. All those who are engaged in ophthalmoscopy know how difficult it is for students at first to get accustomed to reflecting the lateral light directly into the eye with the mirror used, and it has prevented many from making use of this means of diagnosis for a long time. The necessity of making the incident ray of light thrown by the right hand, armed with the mirror, concord with the emerging ray coming from the eye under observation, and the fact that this last ray must be received exactly on the proper lens of the ophthalmoscope, has also kept too many from this precious study of living pathological anatomy. To facilitate this, M. Giraud-Teulon proposes to use a direct ray of light, instead of the reflected one that has been so far indispensable. The present form of the ophthalmoscope is based on the principle that the emerging ray of light coming from the observed eye must follow the same track as the ray of light thrown, and therefore one of these rays must be deviated from the line of vision, and in the monocular methods this is the incident ray; but in the binocular system it is quite different, for here the emerging ray is received on a surface common to two rhomboids joined at the summit and divided between the two eyes. It gives two equal rays, sent right and left, following the parallel axis of the observed eye. This division, made by the instrument itself, gets over the difficulty, and the only remaining trouble is to find a position for the lighting focus so that it will not intercept the incidence of the inverse rays on the rhomboids. This is done by making a hole in the back of each of the rhomboids, about four to five millimetres in diameter, and just behind them is placed a small incandescent Edison lamp, which is worked by a Trouvé battery of three elements with the use of bichromate of potassium. The operator takes the whole instrument in his hand and places it before his eyes, as he would a mask used at a fancy ball. He has only then to press the button of the electric battery and *look*. Besides the absence of all technical difficulties, this new ophthalmoscope permits the observer to use the upright method, as he may come close up to the patient with his light.

New French Medical Laws.—There are two bills now pending before the *Chambre des Députés* to alter the present laws relating to the practice of medicine. One of the bills, called the *Projet du Gouvernement*, will most likely shortly pass. Some of its articles are interesting. As regards foreigners, one has already been put in practice for several years past,—that is, the government has referred the applications of foreigners who wished to practise here to the medical faculty, and

they have insisted upon all applicants passing *all the examinations first.* Article 2 of the new law says, "All physicians graduated elsewhere, no matter what their nationality may be, cannot practise medicine in France except on condition that they pass all the examinations before a French faculty" (eleven in all).

This in effect bars out any foreigners who would wish to settle in France, as there are few physicians who would like to start all over again and devote several years to botany and zoology, physics, etc., before reaching the practical examination, of which they might not be afraid. Art. 17 says, "All illegal practice of medicine will be punished by a fine of one to two thousand francs, and it can be increased by an imprisonment of six months to two years."

Art. 14. "The practice of pharmacy and medicine simultaneously is forbidden, even in the case of a person who may hold both the diplomas (pharmacy and medicine); however, any doctor who practises in a locality where there is no druggist within four miles may keep medicines under certain conditions."

Art. 6 interests the dentists, and so far the American dentists have enjoyed the cream of the practice in France, mostly in Paris; but they will have to hurry now, as the new law will be very stringent. So far, any one can practise dentistry here, and this has led to that interesting profession being a very low trade. Indeed, except for the impulse given to it by the Americans it might have remained so; but this, aided by several deaths that have occurred from the administration of anæsthetics by incompetent dentists, has started quite a reaction; but we regret to see that it is not in favor of the two excellent dental schools that have been established here this last few years, and which have several professors of American origin. Now the government insists, by the new law, that the dentists shall be doctors, but has not as yet provided any means of their acquiring their dental knowledge; indeed, it would be difficult for them to get it, as they have no dental professors. Art. 6 of the new law says, "The exercise of the profession of dentist is forbidden to all persons who do not hold the diploma of doctor of medicine, or at least that of *officier de santé*, both of which must be obtained by passing the examinations before the Faculty of Medicine."

The degree of *officier de santé*, which is the second class of the doctorate in France, is a good deal inferior to that of doctor, but it is almost as difficult to get, as the examinations consist of seven in all, and go over all of medicine and surgery, as well as anatomy, physiology, etc. The principal difference is that the candidate is not compelled to have the degree of doctor of arts and sciences first of all, as the doctor is. The *officier de santé* is not allowed to do surgical or obstetrical operations unless assisted by a doctor, and he cannot act as legal medical expert in the courts, nor as hospital physician, but otherwise he is a regular practitioner. Still, we cannot see how the dentist of the future is to be taught his special art by passing medical examinations, unless the Paris Faculty intend to send over to the United States for a few experts to make a corps of dental professors. The new law in relation to dentists continues: "Those who may be practising dentistry when this law is promulgated, and who are over thirty years of age, will be allowed to continue if they have practised two years; but they will not be allowed to use anæsthetics unless assisted by a doctor."

Treatment of Whooping-Cough.—A Norwegian doctor, H. J. Vetlesen, of Hamar, gives some hundred and sixteen cases of whooping-cough in which he obtained favorable results in over seventy-one per cent. of the cases, and entire cures in twenty-five per cent., with the use of the following mixture:

℞ Ext. cannabis indicæ, 1 gramme;
Ext. belladonnæ, 50 centigrammes;
Alcoholis (at 90°), 5 grammes;
Glycerini, 5 grammes. M.

S. Give four to twenty drops morning and evening, according to the age of the child.

Dr. Vetlesen tried the extracts separately, but could not obtain the same results as when they were combined as above.

Changes at the Paris Faculty.—M. Farabeuf, who for so many years has been the *chef* of the dissection pavilions, has just been elected a full Professor of Anatomy in the place of M. Sappey, retired on account of limit of age. According to the new law, all professors are shelved on their reaching seventy, but an exception is made for those who are also members of the Académie des Sciences. M. Sappey was not of this number; since his retirement, however, he has been elected a member of that august body. M. Gariel has been chosen Professor of Physics in place of M. Gavarret, who was also retired on account of reaching the limit of age. M. Gariel is one of those who has done so much to get physicians to adopt a more exact method in applying electricity by measure (milliampères) in place of the old and uncertain method of the strong and weak currents.

Professor Farabeuf informs us that his work on anatomy will be out before long, and that it will contain over two thousand wood-cuts. He is a very popular teacher, and does not believe that nature can be reproduced in anatomical drawings so that students can understand it: so he has a most wonderful collection of schematic drawings and wooden models for teaching purposes. He uses the plainest kind of language in his lectures, and last week he even went so far as to take his coat off to

show how certain manipulations were to be done on the bony pelvis. Coming after M. Sappey, who was the pink of propriety in everything, always appearing in a dress-coat buttoned up to his neck in his lectures, the change is very marked; but, like some of our American lecturers, M. Farabeuf is very popular with the students.

There are two obstetrical professors at the Paris school: one in charge of the Maternity Hospital, Professor Tarnier, and the second one is Professor Pajot, who for many years has been at the *Maison d'Accouchement;* his many interesting and practical lectures have served to teach thousands of accoucheurs and *sage-femmes* their profession. But he also now leaves the Faculty, for he attained the age of seventy on the 18th instant, when he voluntarily retired, as he did not wish to be forced to give up. The new rule seems hard sometimes, that a hale, vigorous man such as Professor Pajot should be forced to retire in the plenitude of his powers; but something must be said for the hard-working assistant-professors, who have rarely ever become full professors until they were what we would call old already. Professors Farabeuf and Gariel, the newly-elected professors, have both been working many years, and they are to-day both gray-headed men of about fifty: so some excuse must be made for the cry of "Make room!" and the speeding of the older men into retirement. A fine bust of Professor Pajot was uncovered at his last lecture, and speeches were delivered in his honor. It is supposed that Professor (*agrégé*) Pinard will get his place, and that M. Dieulafoy will take that of Professor Hardy, who retired last summer.

The faster, Merlatti, went to the end of his fifty days, but his medical committee withdrew after the forty-fifth day, so that the rest of the experiment is very uncertain, to say the least of it, as it then degenerated into a sort of show where people were admitted at from twenty cents upward. The case is, however, a very curious one, as the man certainly fasted for the forty-five days, if not for fifty; but, as before stated, the results for science are not of much importance.

It may interest some of your readers to know that the new volume of clinical lectures by Professor Jaccoud, from which you published one on "Gonorrhœal Infection," is now published by the editors, MM. A. Delahaye and Lecrosnier.

THOMAS LINN, M.D.

PARIS, December 27, 1886.

BOSTON.

THE vital statistics of Boston for the year 1886 have been published by the city registrar, and from his report it appears that the total deaths amounted to nine thousand two hundred and sixty-three, which is less by three hundred and fifty-nine than the deaths for 1885. The death-rate was 23.29 per thousand of estimated population,—a little less than our average for the past twenty or thirty years, which has been twenty-four per thousand. While the number of decedents under five years of age was, as might be expected, less in 1886 than in 1885 by eighty-three, yet it is singular to note that the deaths under one year of age were greater by one hundred and forty-four in 1886 than in 1885. Phthisis caused one thousand and ninety-two deaths during the past year, being 18.27 per cent. of the whole mortality. This proportion is the largest for the past twelve years. Pneumonia caused seven hundred and seventy deaths, two hundred and thirty-nine less than in 1885; diseases of the heart, five hundred and sixty-eight deaths; diarrhœal diseases, seven hundred and eighteen; croup and diphtheria, four hundred and seventy-seven. These were nearly the same as for the preceding year. The suicides were forty-four, against forty-five in 1885, and the homicides thirteen, an increase of four.

The Harvard Medical School has received a unique legacy, consisting of the mortal remains of Mr. Isaac W. Sprague, who has been in the show-business as a "living skeleton" for a number of years past. He was said to have weighed twelve pounds at birth, and to have developed naturally till the age of twelve years. He then began to emaciate, and continued to lose flesh to a most extreme degree. He married at twenty-six, and was the father of three healthy children. For many years the atrophy of the muscular system has been so marked as entirely to prevent locomotion. When his professional engagements brought him to any of the dime museums of Boston, it was his habit to arrange with Dr. O. W. Holmes, for so many years Professor of Anatomy at the Harvard School, to exhibit himself in the amphitheatre. These exhibitions afforded a very pretty display of the osseous and ligamentous systems, with a certain amount of physiological action added to the demonstration. While of course fully alive to the humor of the occasion, Dr. Holmes always had the thoughtfulness to remind his audiences in advance that Mr. Sprague was not a mere anatomical demonstration, but a sentient human being. The séances usually closed with a collection, and to the mutual satisfaction of all concerned. Mr. Sprague weighed forty pounds at his death. Many of our leading physicians had examined him with a view to diagnosis, but without expressing positive opinions. It is now possible that an autopsy may explain the cause of his mal-nutrition.

During the last two months the druggists, as well as many other shopkeepers, have been suffering from one of the periodical attempts to secure the enforcement of the Sunday laws of our statute-books, an attempt made perhaps with more desire to make these laws unpopu-

lar than in the interest of the preservation of the day of rest. Druggists were notified that they would be prosecuted if they sold anything but medicines on Sunday, and accordingly they waived the trade in cigars and fancy articles which formed a considerable part of their Sunday profits. Even thus a few were complained of, and the Committee of the Druggists' Association advised an absolute closure and cessation of all business, ostensibly as the only means of avoiding prosecutions, but probably as a method of bringing public sentiment to terms by depriving the community of medicines. Some little embarrassment was occasioned to medical practitioners for a Sunday or two, but now the shops have settled down to the practice of keeping their doors locked, but opening promptly when the bell is rung and dispensing medicines, whether called for on physicians' prescriptions or on lay orders; but refusing, at least when there is a chance of detection, to sell anything outside of medicaments.

The meeting of the Suffolk District Medical Society in the Section for Clinical Medicine, Pathology, and Hygiene on January 12 was occupied by a very interesting discussion on the subject of poisoning by arsenical wall-papers. An attempt was made to obtain a law from the last Legislature prohibiting the manufacture of wall-paper containing over one-fifth of a grain of arsenic per square yard, but the effort failed through the opposition of the manufacturers and dealers, and perhaps through the lack of unanimity of the petitioners and the narrowing of the scope of the original bill to wall-papers while other papers and textiles were not guarded against. At the meeting in question, Dr. J. R. Chadwick opened the discussion with an account of the poisoning of two or three members of his family in London, a few years ago, by heavily-loaded arsenical paper. In the fall of 1885 he had a paper put upon his nursery, bought from a leading dealer of this city, and certified to have been analyzed and to be free from arsenic. The appearance of symptoms of irritation of the mucous surfaces, colicky pains, gastric and intestinal disturbance, etc., followed so closely upon occupation of this room, and ameliorated so promptly on removal from it, that the paper was finally suspected, in spite of the assurance of the seller, and on being analyzed showed a large amount of arsenic.

Other clinical evidence was offered at the meeting, from Drs. C. E. Stedman and Edward Wigglesworth, of arsenical poisoning in members of their own families traceable to this source. Professor Lyon, of Harvard College, and Rev. Dr. Young, of Cambridge, narrated personal experiences of themselves and their families in this same direction. Arsenic was found in the urine of one of the patients during the continuance of the symptoms, and later was found to have disappeared. Professor Lyon, who has taken great interest in this subject and has collected some thirty cases of poisoning from arsenical papers, stated that a year ago fifty per cent. of the papers analyzed contained over one-fourth grain of arsenic per square yard.

Dr. W. B. Hills, of the Harvard Medical School, who has made analyses for some of the manufacturers and dealers for several years, stated that from his analyses in the years 1879–83 from fifty-four to sixty-five per cent. of all papers were arsenical, thirty-one to thirty-five per cent. strongly so. In 1884 there began to be less arsenic used,—forty-seven per cent. only of the papers containing it at all, and but twenty-two per cent. a large amount. In 1885 he made no analyses. In 1886 thirty-three per cent. were found arsenical, and but thirteen per cent. strongly so. Hence he concluded that the question was solving itself under the pressure of public opinion, and that perhaps legislation was unnecessary.

Mr. Tennent Lee, a chemist, admitted the presence of arsenic in wall-papers, but denied the possibility of its affecting the occupants of the rooms. He thought the alleged symptoms were indistinguishable from those of sewer-gas poisoning, foul furnace-chambers, and even from nervous exhaustion and disordered imagination. In answer to a question, he admitted that none of these other causes could account for the presence of arsenic in the urine.

Professor Carmichael, of Bowdoin College, said that in some one hundred and fifty analyses that he had made of cheaper grades of paper in use in country districts in Maine, he had found that most of the papers costing from six to eight or ten cents a roll contained arsenic, averaging two and one-tenth grains per square yard. He thought, however, that any legislation should take into account the form in which arsenic existed in the paper,—arseniate of iron, for instance, which existed in the so-called "beefsteak" papers, being quite indestructible and harmless to health.

Other chemists spoke on the subject. Dr. E. S. Wood, whose paper three or four years ago first directed public attention to this danger, said that he thought the mode in which arsenic gained entrance to the system was in the form of dust. On the tops of door-jambs and windows colored dust could often be collected which had gathered from wall-paper.

The meeting adopted unanimously a resolution offered by Dr. Chadwick, to the effect that arsenical wall-papers had produced the symptoms of arsenical poisoning in the occupants of rooms so papered.

It is quite evident that the discrimination between dangerous and safe arsenical papers cannot be simply a matter of the proportion of arsenic present, but that physical conditions must also be taken into consideration. C. F. W.

Boston, January 13, 1887.

PROCEEDINGS OF SOCIETIES.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, JANUARY 9, 1887.

B. F. BAER, M.D., President, in the chair.

THE Secretary read the following paper, by Dr. H. H. WHITCOMB, of Norristown, Pennsylvania.

A REPORT OF SIX HUNDRED AND SIXTEEN CASES OF LABOR IN PRIVATE PRACTICE.

Up to March 31, 1886, I had attended six hundred and sixteen cases of obstetrics. I have had no death of a mother, and only two stillborn children; one of these was destroyed by craniotomy. The forceps have been used in two cases only. I have had no case of twins. I have had one case of elbow-presentation, one shoulder-, one hand-and-face-, and three breech-presentations; all the others were by the vertex. Placenta prævia was present in two cases at full term, and in two miscarriages, one at seven and one at five months. Puerperal convulsons occurred in two patients. A series of thirty-two cases of puerperal fever, but fortunately without a single death, followed me in the winter and spring of 1882. The first case occurred after I was in attendance on a case of scarlet fever, and was followed by three other cases; the next two or three obstetric patients escaped, when I was called to attend a woman who was confined while convalescent from erysipelas. The fever developed in her, and then every case I attended that winter and spring suffered with it. Consultation confirmed the diagnosis in all the cases. One instance was after a miscarriage at seven months following pneumonia. The patient had a tedious convalescence, but has since had a child weighing thirteen and a half pounds. I tried to stop attendance on this class of patients, but could not get rid of them. The epidemic ceased as suddenly as it commenced, and I have not had a case since. The smallest child delivered at full term weighed three pounds and lived only three days. Three deaths of infants have occurred from trismus, and four deaths, in children a few days old, for which I was unable to assign a cause. They simply moaned until they died, while they appeared to be in good condition. I had one case of hour-glass contraction, and four of severe post-partum hemorrhage at term. My success I ascribe to patient waiting and conservatism. I do as little meddling as possible, and do not use antiseptic injections. The credit is partly due to my old teacher, Professor Penrose, who is a safe guide to follow. I owe much to his careful instruction. I see so many doctors who, in almost every case of obstetrics they get, if they arrive before the child is born, put on the forceps to "hasten delivery and shorten the woman's suffering." I am very positive that this frequent use of the forceps is abuse. I have had a number, possibly twelve, of ruptured perineums; they were immediately stitched, with a perfect result in all cases. I have never had a vesico-vaginal fistule, though one of our teachers would impress his classes with the idea that these cases occur in the hands of the country practitioner. I might say the only cases I have ever seen were those in the care of the city doctors.

Dr. H. A. KELLY remarked that Dr. Whitcomb's report was full of interest, and in criticising the observer must be careful not to impose the rules and statistics of an average Philadelphia practice upon the Norristown people. While it is true that ailing, delicate women live and require obstetrical service in Norristown as elsewhere, yet it is a fact that in Philadelphia the up-town mill population from all over the civilized world, and the down-town population of pampered society women and alley-offscourings, present very different problems to the accoucheur.

With notable exceptions, labor in the country is *easier*. Differences of the same kind in greater degree exist between our native and foreign population. He was much struck with this fact last summer, when he went to the Anatomical Institute in Leipsic, to Herr Dornfelder, to buy a normal female pelvis. He was going to Berlin, to return in a month, and instructed him to find a pelvis as near a normal specimen in the museum as he could in the large amount of material passing weekly through the Institute. Upon his return he was given a specimen, which he now had in his office, which was the nearest to the normal Herr Dornfelder had been able to find; and he assured the speaker that a normal pelvis was rare. This dried pelvis, with artificial ligaments, measures: Sp. I., 25½ cm.; Cr. I., 29½ cm.; Cr., 9 cm.; Di., 13 cm. The argument as to different necessities in different localities holds good with regard to the use of antiseptics.

Dr. WILLIAM GOODELL read a paper entitled

A YEAR'S WORK IN OVARIOTOMY.

In it he stated that he had had during the past year fifty-nine laparotomies, but that, lest his paper should be too long, he should limit himself to the consideration of his ovariotomy cases. Of these he had had thirty-nine cases, with three deaths.

Of these deaths, one occurred on the table from the difficulties of the operation. It was a dreadful case of intra-ligamentous cyst with universal adhesions, from which it was shelled out without a pedicle. The ureter had to be dissected out for twelve inches, and the entire colon, womb, bladder, and small intestines were attached to the cyst. It was a very forlorn case from the start, and he operated merely from a sense of duty. He stated that

in the removal of intra-ligamentous cysts the ureter is in great danger, and he believed that it had been repeatedly torn across without the knowledge of the surgeon. Dr. Goodell stated that, before the death of this case, he had had in succession twenty-two successful cases, and afterwards a series of eight cures before the next death took place,—viz., thirty-one cases with one death. The second death was due to obstruction of the bowels in a case of large fibroid of the womb and ovarian cyst weighing sixteen pounds. On account of the fibroid, both ovaries were removed. He had had his share of cases of obstruction, but this was the first fatal one in his recollection. The remedies that he used were calomel and belladonna by the mouth, and turpentine by the rectum. The obstruction is due to the adhesion of a knuckle of intestine either to the stump of the pedicle, to the abdominal wound, or to some denuded surface. As soon as symptoms of obstruction presented themselves, he always aimed at once to open the bowels.

The third death occurred in a case of malignant cystic disease of both ovaries in which the operation was incomplete. Malignancy had been suspected, but the operation was forced on him on account of the excessive pain from which the woman suffered. Yet he argued, from his own experience and from that of Schroeder and Martin, that, other things being equal, it was always wise to remove ovarian cysts, even when malignant, for patients' lives would be greatly prolonged by the operation.

The right ovarian cyst had no pedicle, but ended in a brittle cancerous mass as large as his fist. This, with very great difficulty, was ligated *en masse*, and then bleeding vessels were secured separately. The left ovarian cyst was so fastened to the womb, pelvis, and broad ligament by masses of cancerous excrescences that he did not attempt to remove it. He would have abandoned the case after he discovered the nature of the complications, but he had gone too far to recede, for his hand had been inside of the right cyst to break up its septa, and blood was flowing profusely from it. The lady died twenty-six hours later, from shock and hemorrhage.

He stated that some ovariotomists do not report their incomplete operations or their exploratory incisions, but that he thought it fairer to do so. If his memory served him no trick, this was the only incomplete operation for ovarian cyst that he had ever had. None of his cases had been selected, and he had refused to operate in one case only, and that one on account of epithelial cancer of the cervix; so that he did not have any exploratory incisions to report. He had twenty-one cases with adhesions, a very large proportion, which he attributed to the tendency women in this country have of postponing the day of operation. He also had had twenty cases of double ovariotomy; but this large number was due to his rule of removing the second ovary in all malignant or suspicious cases, in all cases which have passed the climacteric, in all cases of incipient disease, and always when asked by the patient to do so. He further stated that he still adhered to Listerism, and that he used Keith's dressing of one part of carbolic acid to seven parts of glycerin.

Dr. PARISH cited a few instances of evil results following abdominal tapping for purposes of diagnosis or for relief from distention. In his first ovariotomy case, with the view of clinching the diagnosis, he aspirated and withdrew a few drachms of somewhat cloudy ovarian fluid. The patient presented some symptoms which in a few days became grave,—pain in the tumor, rigors, rapid and feeble pulse, and high temperature. He operated during the existence of these symptoms, and found suppuration of the interior of the cyst and extensive anterior adhesions; both conditions doubtless dependent upon the aspiration. The patient recovered.

A few years ago a well-known medical gentleman of this city aspirated a tumor supposed to be a multilocular ovarian cyst. Though the fluid was stated to verify the diagnosis, the patient miscarried in one or two days of twins at about the fifth month, and the tumor proved to be simply a uterus enlarged by reason of a multiple pregnancy.

He had recently seen in the Philadelphia Hospital a shocking case of labor, in which active labor-pains began one week previous to admission to the hospital. No urine had been voided for several days. Pregnancy was denied by the patient and her friends, and was not recognized by two physicians. The woman was small and deformed, and in the abdomen were two fluctuating tumors, one due to a distended bladder, the other the uterus. Aspiration was resorted to in both tumors, a procedure that was not only unnecessary for diagnostic purposes in this case, but which would probably have been highly detrimental to the patient had not the neglected and protracted labor already determined a rapidly fatal result. Though tapping for relief and especially for diagnosis is less frequently resorted to than was the case a few years ago, yet even now it is too frequently done.

In reference to the development of cancer or sarcoma after the removal of seemingly benign ovarian tumors, he had seen recently an example in a patient operated on by Dr. Hickman and himself. A large cyst of one ovary and a small one of the other, both free from the appearance of malignancy, were removed, and the patient made a tardy recovery. In about a year sarcomatous growths developed in the neck and axilla, and a large one in the abdominal wall of the left lumbar region. The patient died a few weeks ago, and the autopsy was made by Dr. Morris Longstreth, and though the sarcomas referred to

were present, there was not intrapelvic disease. An interesting feature was the total disappearance of the ligature of iron-dyed silk with which the pedicles and several vessels were secured about eighteen months previously.

Dr. H. A. KELLY stated that while simple tapping was often in no way injurious, it was also often productive of grave injury, and one of his own cases illustrated this point very well. The patient, having a cyst weighing one hundred pounds, was tapped in the left iliac region by a notorious homœopathic surgeon. She had previously suffered from pressure-symptoms. From now on she suffered from severe inflammatory pains around the puncture, and at the operation the extensive dense adhesions at this point constituted the chief difficulty. She is now well, more than a year since the operation.

It is a cause for mutual congratulations for American operators that their results are becoming so good. The whole credit of this lies in the thorough use of antiseptic agents and the rendering the field of operation completely *aseptic*.

He believed, too, that our cases at home are more difficult than those now being operated on abroad. The tumors we operate upon are older, and with the increasing age of an ovarian tumor occur many changes detrimental to the patient: depression of vitality from pressure-symptoms, diversion of so much albumen from the system at large, surcharge of the emunctories, as well as adhesions and unfavorable changes within the tumor itself.

Keith's dressing of a strong carbolized glycerin has rendered excellent results in the speaker's hands in at least twenty cases.

Dr. GOODELL, in answer to a question by Dr. Baer, said that he had operated during menstruation merely from pressure of time on the part of the patient, and little or no effect was produced on the discharge by the operation.

Dr. JOSEPH PRICE, in commenting upon some points alluded to in Dr. Goodell's paper fearing the contaminated atmosphere of a general hospital, cited the statistics of two hospitals,—special department of Birmingham General Hospital and Birmingham Hospital for Women,—covering a period from January, 1878, to September, 1885.

Special Department of General Hospital, ovariotomy, 35 cases, 11 deaths = 31.4 per cent.

Birmingham Hospital for Women, ovariotomy, 268 cases, 19 deaths = 7.1 per cent.

During the same period the total number of extra-abdominal operations in the Special Department of General Hospital: 85 cases, with 21 deaths, = 24.7 per cent. mortality. Birmingham Hospital for Women, 632 cases, with 49 deaths, = 7.7 per cent. mortality.

One point as to the value of the spray, quoting from Keith's report of cases treated in the Royal Infirmary, Edinburgh:

Carbolic Acid Spray Cases.

Ovariotomy, 21 cases; 18 cured, 3 died.

Hysterectomy for fibroid, 2 cases; 2 cured, 0 died.

Battey's operation, 1 case; 0 cured, 1 died.

Twenty-four cases, with four deaths, = 16.66 per cent.

Boro-Glyceride Spray Cases.

Double ovariotomy with hysterectomy, 1 case; died.

Hysterectomy for fibroid, 1 case; recovered. Result with boro-glyceride spray, 2 cases, with 1 death.

No Spray.

Ovariotomy, 47 cases; 46 cured, 1 died.

Hysterectomy for fibroid, 7 cases; 7 cured, 0 died.

Battey's operation for fibroid, 1 case; 1 cured, 0 died.

Interstitial pregnancy, 1 case; 1 cured, 0 died.

Total, fifty-six cases, with one death.

Mr. Keith says, "No cases of serous cysts of the broad ligament were operated on. These all were treated by tapping, and none of them have returned." One such case that Dr. Price saw died a few days later. Of Dr. Keith's cases, one-half had no adhesions.

Dr. MONTGOMERY expressed pleasure at hearing Dr. Goodell's details and success, and considered his success gratifying, especially after tapping. A patient came to him one month after tapping. She had a high pulse, septicæmia, large adhesions to viscera, etc., putrid clots in the tumor, and died on the fifth day with a temperature of 105°. He does not approve of tapping broad-ligament cysts. One patient with such a tumor was tapped seven times. He afterwards removed the tumor, and did not have a single vessel to tie. In this case the peritoneum had been pushed up by the tumor, and was not opened until late in the operation.

Dr. GOODELL made a few remarks on the subject of statistics. Dr. Keith's have improved not because he has given up the spray, but because he has grown to his work. Dr. Goodell will give up the spray because it is an intolerable nuisance. As to the question of the malignancy of ovarian tumors, it has been said that "all ovarian tumors are malignant, and should be so treated." This is too sweeping; but the tumor should in all cases be removed as soon as possible, as soon as it is discovered.

Dr. R. P. HARRIS desired Dr. Parish to report the present condition of the patient from whom he had removed the ovarian tumor exhibited by him before the Society at its meeting on March 4, 1886, the day after the operation.

Dr. PARISH requested Dr. Harris, who had seen her much more recently than he had, to report her condition.

Dr. HARRIS stated that notwithstanding the fact that the tumor was largely solid, that it had grown rapidly, that the solid portion had an appearance of malignancy, and that there was a small morbid growth projecting upward from the fundus uteri, the lady was to all appearance a well woman. He saw her on December 26, when she claimed to have perfectly recovered her health and strength after a very prolonged convalescence. Her appearance and activity certainly indicated that her statement was correct. The uterine nodule must have been a fibroid, as had it been cancerous it must have materially developed in nine months. The future of this case will be of much interest.

(To be continued.)

PHILADELPHIA NEUROLOGICAL SOCIETY.

MEETING OF DECEMBER 27, 1886.

(Continued from page 296.)

A PAPER by Dr. F. X. DERCUM was next read, on

EPILEPTIC BRAINS.

(See page 304.)

DISCUSSION.

Dr. CHARLES K. MILLS: The specimens presented by Dr. Dercum have great value. It is in part at least by studies of this kind that we will eventually discover the basis of epilepsy and of some forms of insanity. All genuine investigations are practical, and in studies of this kind an outcome of good is evident, even from the practical as it is ordinarily regarded. Of the many classifications of insanity which have been attempted, that of Dr. H. M. Bannister, of Illinois, is to my mind the best, although open to some criticism. His classification is into first primary and next secondary insanities. Under primary insanities he ranges (1) teratological forms, dependent on original structural defects; (2) pathological forms, dependent on alterations due to disease; (3) mixed forms, generally pathological, but in part probably due to original structural defect. Under his first head of teratological forms he embraces cases of idiocy, imbecility, and what he chooses to term pseudo-paranoia. The point is that these are cases which can only be demonstrated through morphological or teratological conditions such as are present in the brains exhibited this evening. By studies of the kind made by Dr. Dercum we are helped towards a fundamental understanding of insanity, and therefore towards better systems of classification. In regard to some of the apparent hypertrophies present, the idea suggests itself that these may be due not so much to overgrowth as to lessened resistance of the bony envelope.

These studies are but the beginning of a great work. Valuable as this work is, it is but the pioneer work,—the study of abnormal cerebral surfaces. Before long these investigations will be carried below the surface, and will be histological as well as researches in gross anatomy.

Dr. I. MADISON TAYLOR: It is well known that in most of the subjects of the convulsive disorders of childhood there are found distinct evidences of rickets. Some writers have said that at least thirty per cent. of children with convulsive disorders present marked rachitic changes. Gowers states that in fully ten per cent. of all epilepsies rickets is a predisposing cause. This would seem to bear upon the subject of brain-changes due to faulty bone-growth.

Dr. J. HENDRIE LLOYD: I would ask Dr. Dercum, with reference to the onset of the epileptic symptoms in these cases, and more particularly as to the form of insanity which they presented, whether in all of the cases the disease was due to hereditary abnormality of development, or whether some presented acquired forms of insanity.

Dr. FRANCIS X. DERCUM: In many of these cases the history was obscure. Ten of the twelve cases were ordinary epileptic dements. In one case, that which presented the large cuneus, the patient was an epileptic imbecile, and had been so from early childhood. The other specimen is from an epileptic maniac. He presented attacks of epileptic fury. It seems to me that our notions of epilepsy are not altered by the different forms under which the disease presents itself: whether it manifests itself by an intellectual or emotional explosion, as in mania, or by a motor explosion, as in the convulsions of ordinary epilepsy. We may find, as Gowers points out, cases where there is, instead of an explosion, a sudden arrest of all the processes. Again, the condition might show itself simply by the epileptic aura. There might be a sensory explosion without any motor disturbance. We should not limit our idea of epilepsy simply to the motor disturbance. The point in epilepsy seems to be that the normal interchange of function between the different parts is not kept up, this being rendered impossible by the abnormal construction of the parts. They are out of proportion to each other.

Dr. CHARLES A. OLIVER read a paper giving

AN ANALYSIS OF THE OCULAR SYMPTOMS OBTAINABLE IN EPILEPSY IN THE MALE ADULT.

(See page 306.)

DISCUSSION.

Dr. LOUIS J. LAUTENBACH: The subject which has been discussed by Dr. Oliver has been for the past three or four years worked

upon by myself, both among male and female subjects, and among those not insane as well as among the insane. The cases have been both from hospital and private practice. Within the past week I have seen three patients with the ordinary epileptic symptoms. One of these had the typical eye-ground which Dr. Oliver mentions. This was a case of idiopathic epilepsy. In another case, supposed to be one of syphilitic epilepsy, the eye-ground was different. In the third case there was still another picture, and in this instance the convulsions were due to the presence of a brain-tumor.

It is an interesting as well as instructive fact that there is a close resemblance between the eye-ground in a case of imbecility and that in a case of epilepsy: so far as I know, there is no essential point in which they differ.

There is one point which Dr. Oliver has not mentioned that I have noted, and that is that in perhaps one-third of the cases examined, and especially in those seen in insane hospitals, the macular region presents a red granular appearance, and, in addition thereto, the macula itself was of a dull red color. I have not observed the darkness of the color of the blood to which reference has been made.

Gowers states, as the result of the examination of a thousand cases of epilepsy, that there is only one condition that appears to be somewhat frequent in these cases, and that is that the arteries and veins appear to be about equal in size. It is strange that a careful observer like Gowers has not noted the thickening of the fibrous tissue of the retina which has been described by Dr. Oliver, and which is usually the first thing that is observed upon examining the fundus. In examining these cases I was struck with the frequency of high grades of hypermetropia, the proportion being greater than is observed among healthy individuals.

There is another point of some interest, and that is that in long-standing epilepsy, where the attacks have been very frequent or severe, it frequently happens that the nerve presents very marked signs of degeneration, the atrophy being decidedly advanced, the direct form of vision being well preserved.

Dr. Francis X. Dercum: The use of the ophthalmoscope in epilepsy for diagnostic purposes I regard as of comparatively slight value, for the diagnosis is usually made with ease from the history. The chief value is the light which it throws upon the pathology. Other things being equal, there is a certain correspondence between the condition of nutrition in the retina and the nutrition of the cerebral tissues. There is a certain amount of agreement between the ophthalmoscopic appearances and the microscopic appearances of the brain-tissue. In one case of epilepsy in which Dr. Oliver examined the eye-ground, the patient subsequently died, and section of the brain showed changes similar to those found in the eye. There was a similar tortuosity of the vessels, a similar infiltration of the sheath of the vessels, and a general increase in the neuroglia.

Dr. Charles A. Oliver: I am not now prepared to give any data in reference to the similarity of the eye-grounds of the imbecile and the epileptic, although I am pursuing investigations among the imbeciles at the Norristown Hospital for the Insane. Also, as I have before noted, I have carefully avoided any endeavor to make any differential diagnosis as to the causation of the convulsions. Inequality of pupil independent of local adhesion can be readily understood when differences of vision and accommodative action dependent upon refractive error, etc., which are so often seen in the two eyes of the same subject, are considered. These were carefully studied and purposely excluded, merely giving the pupillary reactions, sizes, and shapes, *as a rule*, although in a number of instances, especially where there was unequal contraction of the visual fields, I found some curious errors in the innervation arcs of the irides. In reference to the occurrence of high degrees of hypermetropia (varying from four to five dioptrics), I must say that I have not found this to be the case, at least in those subjects that were at my disposal. The fact that the amount of grayness of the disk in some instances seems to bear no absolute relation to the amount of nerve-degeneration —as was curiously shown in a series of observations made some years ago upon young, seemingly healthy males, in which I found that those nerves which were apparently extremely gray had excellent quantitative color-perception, while some of the nerves which appeared of good healthy tint had not as good (none of these cases making a single mistake in Holmgrem's loose-wool selection, and all having perfect acuity for form)—is curious, yet it must be admitted that the amount of vision and color-perception seen with degeneration of nerve-tissue is dependent upon the squeezing or atrophy to which the nerve is subjected. Those of Gowers's observations which were made during or immediately after a convulsive attack were extremely difficult to manage, although limited to cases in which the seizure began locally. His assertion that during the intervals of the fits there are no abnormal ophthalmoscopic appearances can, I think, hardly be borne out. In framing the conclusions which I have presented, I have grouped all the symptoms, both subjective and objective, into an average case, hoping thereby to obtain a somewhat typical picture. The peculiarities of the eye-ground seen in the cases I have studied—those of long-standing attacks of frequent occurrence—are most probably explained by the presumption that every convulsive discharge leaves an additional pathological condition, by which the

objective appearances of a low and chronic form of retinitis and perivasculitis, associated with dirty red-gray degeneration of the optic nerve, are at last established as the visible living results of a similar process which has been taking place within the intracranial substance, and which may be readily seen post mortem by careful microscopic examination.

Dr. GRANVILLE FAUGHT exhibited, by invitation, a new milliampère-metre, made by Waite & Bartlett; also a pole-changing electrode-handle.

Dr. CHARLES K. MILLS exhibited Rudisch's new portable galvanic battery.

Adjourned.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting of the Academy was held January 20, 1887, the President, A. JACOBI, M.D., in the chair.

THE VALUE OF QUININE AS AN ANTIPYRETIC IN PNEUMONIA.

Dr. JOHN H. RIPLEY read a paper on this subject, it being based principally on the histories of forty-eight cases treated in the St. Francis Hospital. This number included only those cases in which the experiment was carried out under careful observation of the patient's symptoms and the effects of the drug; in many other cases, with less complete histories, the results from the use of quinine were similar. The drug was given only in cases in which the temperature had reached at least 103° F. The quinine was given usually by the mouth and in solution, sometimes hypodermatically, sometimes by the rectum. No experiment lasted less than four hours, and usually not less than six to twelve hours. In the earlier cases the temperature was taken every fifteen minutes, later half-hourly or hourly, and always by the rectum. The effect of the drug on the pulse and respiration was noted in about two-thirds of the cases. When but a single dose was given during the day, it was usually in the morning; but all parts of the day were represented. Nearly all the patients were adult males, from nineteen to forty-five years. In twenty experiments a single dose of twenty grains of the sulphate of quinine in solution by the mouth was given: in five, thirty grains; in three, thirty grains were given in five-grain doses every two hours; in two cases thirty-five grains were given in the latter way; in eight cases forty grains were given at a single dose by the mouth; in three, twenty grains hypodermatically; in three, fifteen grains hypodermatically; in one, eight grains hypodermatically. The reduction in temperature which took place was always of short duration. There was no uniform time as to when the temperature began to fall, nor as to the duration of the fall: in a large number of cases there was a slight lowering of the temperature within fifteen minutes; in others it began to fall within half an hour to three hours. The time from the beginning of the fall to the permanent rise was from two to ten hours. But the temperature, even when taken every fifteen minutes, was found to vary constantly. The effect on the pulse and respiration was neither constant nor uniform, and the pulse and respiration did not constitute a sure guide as to the effect upon the temperature. Of the six cases in which the temperature was reduced more than two degrees, in four there was malarial poisoning. Giving reasons for excluding these cases excepting one, he said that the greatest reduction in temperature obtained was only one degree and a fraction, except in a single instance. Practically, as far as we could judge from these experiments, the most that we could expect from the administration of from twenty to forty grains of quinine administered daily in the active stage of lobar pneumonia was a reduction of the temperature between one and two degrees Fahrenheit in about half the cases, while in the other half the reduction would amount to less than one degree. When he added that the lowest point reached did not continue approximately more than two hours, the results appeared even less striking. It was not improbable also that in a number of cases the effect of the drug in reducing the temperature was only apparent, for there were recessions of the fever in pneumonia without medical treatment.

The conclusion that quinine was a feeble antipyretic in pneumonia was arrived at by his experiments. But, besides being only a feeble antipyretic, there were other objections to its use. In even moderate doses it produced anorexia and nausea, and in large doses it not unfrequently excited retching and vomiting, prolonged intolerance of food and stimulants, marked cardiac weakness lasting several hours, sometimes associated with dicrotic pulse. Profuse, often cold, perspiration was another effect; epistaxis occurred in about twelve per cent. of the cases; profound nervous depression, somnolence, delirium, muscular twitching and trembling, dilated pupils, in two instances opisthotonos, were among the effects upon the nervous system. In three cases in which a thorough examination of the urine was made, the albumen was found increased in quantity after taking quinine, and in one there appeared renal casts which had not been present before. In his opinion, these injurious effects of quinine more than counterbalanced any good arising from the slight temporary reduction in the fever which it produced. He had not been able to find evidence that it ever shortened the course of the disease or lessened the mortality.

Dr. RIPLEY thought that too much importance had been attached of late to the reduction of the temperature in disease, especially when of moderate degree. In typhus and

typhoid fevers, for instance, of which we had had during the past few years quite a number of cases in the hospitals, the mortality had been markedly less after abandoning the former heroic measures for reducing the temperature. Why should it be necessary in a case of ordinary pneumonia, running a short course, to ply the patient with antipyretics? That quinine had any influence in arresting cell-migration might well be doubted. If an antipyretic were indicated in pneumonia, antipyrine and even salicylic acid were more powerful and less dangerous than was quinine.

Dr. M. Putnam Jacobi thought, from experience in the treatment of pneumonia in dispensary children, that quinine could not be relied upon as an antipyretic; that antipyrine was more suitable.

Dr. J. Lewis Smith had found quinine to be a very good emetic in children, and he thought it probable it may have sometimes been vomited when the physician was not informed of the fact. He would give it only in small doses and as a tonic in pneumonia.

Dr. Fruitnight, Dr. Castle, Dr. Billington, and Dr. Holt had not found quinine a useful antipyretic in pneumonia; other measures were preferable.

The President seldom gave quinine for its antipyretic effects in pneumonia at the present time, as antipyrine, for instance, was more efficient. But some years ago he employed it and had obtained benefit from its use. It was important that it should not be given during the height of the fever, as it would not then be absorbed and would injure the digestion; if given hypodermatically, the carbamide of quinine was the best form to administer. At the time he referred to he was in the habit of giving from six to ten grains during the day to a child, and he got the name of overdosing; now, however, many physicians gave much larger doses, but without getting the unpleasant appellation which had stayed with him, notwithstanding he gave no larger doses than formerly, now looked upon as moderate.

NEW YORK PATHOLOGICAL SOCIETY.

THE annual meeting was held January 12, 1887, Dr. T. Mitchell Prudden, the Vice-President, in the chair.

THE "BRONCHIAL TREE."

Dr. W. P. Northrup presented the lung of a child 3 years of age, dead of broncho-pneumonia, the interest in the specimen being that, by a favorable cut with the knife, the so-called bronchial tree was very beautifully shown.

SYPHILITIC LESIONS OF THE LUNGS.

Dr. W. H. Porter presented specimens similar to those which he had presented at a late meeting of the Society, illustrating the syphilitic lung. The bacillus tuberculosis was not found, after the most careful search.

THE LESIONS OF THE DIFFERENT STAGES OF BRONCHO-PNEUMONIA.

Dr. L. E. Holt presented the specimen, which was chiefly of interest as showing the lesions of broncho-pneumonia of only two or three days' duration at one part of the lung, of about three weeks' duration at another part, and of eight weeks' duration at another part. The child was taken sick with the usual symptoms of broncho-pneumonia eight weeks before: there was a relapse about five weeks later, and again before death.

TYPHOID FEVER SIMULATING CEREBRO-SPINAL MENINGITIS.

Dr. R. W. Amidon presented the intestine of a woman aged 30 years, showing well-marked lesions of typhoid fever; many of the ulcers in the lower part of the ileum having healed, but some in the large intestine still in a sloughing condition, as was the one from which fatal hemorrhage had taken place the day before. The patient was taken ill November 19, 1886, with pain in the back of the head and neck, and later she had chills. The pain in the back of the head increased, and a doctor was called. The temperature was 103.8°, higher in the morning by one or two degrees than in the afternoon. The morning temperature throughout the sickness was nearly uniformly higher than the afternoon temperature, and in other regards the temperature-course was very irregular. The cerebro-spinal symptoms were marked throughout the attack. Dr. Amidon saw the patient in consultation once. There was no special tenderness over the abdomen, no ileo-cæcal gurgling nor eruption. Later there was a scarlatina-like eruption in patches all over the body. The temperature became nearly normal on two or three occasions, but again rose from impropriety of diet, and a few days before death it was the temperature of pyæmic or septic poisoning. The diagnosis had been in favor of cerebro-spinal meningitis. But it was now changed to typhoid fever, as this seemed best to account for the septic poisoning. The patient was doing well when suddenly intestinal hemorrhage took place and resulted fatally. Dr. Amidon said the text-books did not mention cerebro-spinal meningitis in speaking of differential diagnosis in connection with typhoid fever. He had found only one case in literature, after brief search, in which septicæmia followed typhoid fever. The spinal cord in the case which he related was normal; the cranial cavity was not opened.

At the executive session Dr. T. Mitchell Prudden was elected President, and Dr. W. P. Northrup Vice-President.

REVIEWS AND BOOK NOTICES.

DISEASES OF TROPICAL CLIMATES. Lectures delivered at the Army Medical School. By WILLIAM CAMPBELL MACLEAN, M.D., C.B., Surgeon-General, late of H.M. Indian Army, etc. London and New York, Macmillan & Co., 1886. Post 8vo, pp. 337, cloth.

The lectures delivered at Netley by Professor MacLean, whose long medical experience in hot climates enables him to speak with authority upon the subject, will be read with pleasure by the profession. The various manifestations of malaria, enteric fever, febricula, relapsing fever, dengue, yellow fever, insolation, bowel disorders, cholera, diseases of the liver, beriberi, and Guinea worm are considered consecutively, the lectures terminating with a farewell address. The statistics, results of clinical and post-mortem observations, discussion of questions of pathology and therapeutics, and observations upon the climate of India, are of more than transient importance. His remarks upon the treatment of cholera acquire special interest from the fact that personal experience as a sufferer dictated the advice as to treatment. Opium early or not at all, an abundance of iced water, even though vomiting seems increased by it, and the entire abolition of stimulants internally, the use of turpentine or chloroform externally to relieve cramps, or the inhalation of a few whiffs of the latter, and rest in a horizontal position, are the main points to be observed in the treatment. Immediately upon the appearance of the first signs of reaction assiduous nutrition should begin, commencing with arrow-root made with water, with beef-tea enemata, and measures directed towards the restoration of the functions of the kidneys. Calomel in large doses is considered objectionable, both on account of the idiosyncrasy of some patients to mercury and because he had seen it cause ulceration of the stomach. The extravagant recommendation of some remedies as specifics seem, in the mind of the author, based upon the fact that "remedies used towards the end of an epidemic often obtain an undeserved reputation,"—a remark which applies in other diseases as well as cholera.

THE SCIENCE AND PRACTICE OF SURGERY. With One Thousand and Ninety Illustrations on Wood, mostly New and Original. By FREDERICK JAMES GANT, F.R.C.S., etc. Third Edition. Revised and much enlarged throughout. In Two Volumes. Pp. 1089, 1183.

The importance of clinical study of life, both under healthy and morbid conditions, is maintained by the author of this handsomely-printed system of surgery, the motive being to keep before the reader the teachings of anatomy and physiology in essential connection with the rational practice of surgery. It is upon the assumption of a deficiency in this regard in others that the author of this work proceeds. The present edition has been carefully revised and a large number of illustrations added. As in former editions, special sections have been prepared or revised by well-known authorities upon their individual subjects. The chapters on Diseases of the Eye, the Ear, and the Teeth have been undertaken respectively by Mr. Henry Power, Senior Ophthalmic Surgeon to St. Bartholomew's Hospital; Mr. W. Laidlaw Purves, Aural Surgeon to Guy's Hospital; and Mr. Charles S. Tomes, F.R.S., Examiner in Dental Surgery to the Royal College of Surgeons. "Diseases of the Throat and Larynx" is contributed by Morell Mackenzie; "Deformities," by William Adams; "Diseases of the Skin," by Malcolm A. Morris; "Diseases of the Female Genital Organs" has been revised with the aid of Dr. Robert Barnes, and "Cleft Palate" by Mr. William Rose. A description of the Sphygmograph and its application was contributed by the late Dr. Mahomed.

The care which has been exercised in bringing this edition to its present position constitutes it a fair expression of modern British surgery. It probably fairly represents the practice of surgery in England, and is consistent in its failure to understand the principles of asepticism in the dressing of wounds, and the revolution which they have achieved in practical surgery. On page 437 the principle of Listerism is said to consist in "the exclusion of air as the infecting agent from the wound," and "the interposition of some positively disinfecting or antiseptic dressing." This view leads to various expedients to keep air from the wound, such as keeping it covered with water or oil, or by the use of the spray, all of which will prove inefficient if the fundamental precaution is neglected, which is the key-note of modern surgery, "make and keep the wound aseptic." Where this is accomplished, antiseptic surgery has been successfully applied; where it fails to be accomplished, and bacterial infection occurs, the application has been faulty.

If the remainder of the work were written up to the standard of Watson Cheyne's article, it would better represent the surgical pathology of to-day. The chapters on inflammation, suppuration, tuberculosis, and hydrophobia need to be revised from this point of view. The propriety of devoting a chapter to rheumatism and gout, or to hysteria or delirium tremens, in a system of surgery, is questionable. Apart from these criticisms, which we feel obliged to make, we find the subject-matter interesting, the illustrations good, and the treatment that which will receive the approval of clinical surgeons generally.

NEW REMEDIES AND CLINICAL NOTES.

To Ascertain if Gangrene is likely to follow Severe Injury of a Limb, Dr. W. Scott Lang advises elevating the injured member in order to render it temporarily anæmic; next applying an elastic bandage or tourniquet for a minute; then lowering the limb and removing the tourniquet; when, "if sufficient circulation remains, the part beyond the seat of injury will blush rosy-red, and will show in an unmistakable manner the condition of the blood-vessels." This expedient was adopted by the writer in a bad case of railway-crush of both bones of the leg, where the limb was almost dangling and apparently hopeless. Under antiseptic treatment (after removal of fragments of bone and securing bleeding points), the boy made an excellent recovery with a useful limb.—*Edinburgh Medical Journal*, January, 1887.

Aconite in the Treatment of Pneumonia.—The treatment of pneumonia by tincture of aconite is not new, but its endorsement by Surgeon J. D. T. Reckett, of the Army Medical Staff (*Indian Medical Gazette*, October, 1886), is so unequivocal that it deserves attention.

For six years nearly every case of pneumonia which has come into his hands has been treated with aconite, and in this period he has had only one case which ended fatally. In adult men of florid complexion, high temperature, rapid and full pulse, and usually dyspnœa and pain, he gives five minims (B. P.)—equivalent to gtt. j–ij, U. S. P.—every two hours with half an ounce of water, until the urgent symptoms are relieved; subsequently wine of ipecac and solution of acetate of ammonium are substituted. Hot poultices of flaxseed are applied, and low diet given. The disease, thus treated, rarely passes into the second stage of red hepatization.

Anisic Acid, a New Antiseptic.—By oxidation of oil of anise, anisic acid is obtained, which is isomeric with methyl-salicylic acid and has germicidal properties. The anisate of soda does not disagree with the stomach, reduces temperature, and increases intravascular pressure. It may be used in surgery as an antiseptic, or in the treatment of acute articular rheumatism as a succedaneum of salicylic acid.—*Rev. de Thér. Méd.-Chir.*

MISCELLANY.

"Physical Culture in Amherst College," by Dr. Nathan Allen, of Lowell, Massachusetts, was the title of a valuable paper read at the Academy of Medicine upon a subject which is now coming quite prominently before the profession and public. Amherst introduced physical culture twenty-six years ago, and Dr. Allen has been chairman of the committee on that subject of the Board of Trustees during all that time. The paper spoke with authority. The principle determined upon at the start and carried on during the whole time has been—

1st. The putting of the department under the care of a competent physician, who was a member of the faculty and on equal standing with the other professors. This person also gave lectures on hygiene and human physiology.

2d. A personal investigation, accompanied by measurements, to see the departure from the normal standard of the individual, and also if there was a physical condition which might prevent his taking exercise in any form.

3d. A compulsory attendance upon a certain amount of light gymnastics upon the part of all students whose physical conditions will permit it.

4th. Special exercise is suggested to all who do not come within the limits of the normal standard, having a tendency to bring them up to the standard.

5th. A full and free opportunity for consultation between student and professor on health subjects: indeed, the excuse from college duties on account of sickness is a matter for investigation on the part of the professor.

As a consequence of this, the results have been in every way satisfactory. There are fewer days lost from sickness, fewer students break down during their college course, while the strength and vigor of the men have increased from year to year.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 16, 1887, TO JANUARY 29, 1887.

Major W. H. Forwood, Surgeon.—Ordered for duty at Fort Meade, Dakota Territory. S. O. 5, Department of Dakota, January 14, 1887.

Major John Brooke, Surgeon.—Ordered for duty as post-surgeon at Fort Monroe, Virginia. S. O. 10, Division of the Atlantic, January 14, 1887.

Major W. H. Gardner, Surgeon.—Ordered for duty as post-surgeon at Fort McHenry, Maryland. S. O. 10, Division of the Atlantic, January 14, 1887.

Major B. F. Pope, Surgeon.—Ordered for duty at Fort Clark, Texas. S. O. 15, A. G. O., January 19, 1887.

First-Lieutenant Edward R. Morris, Assistant-Surgeon.—Granted leave of absence for one month, to take effect about March 10, 1887, with permission to apply for an extension of twenty days. S. O. 6, Division of the Pacific, January 19, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE SIX WEEKS ENDED JANUARY 29, 1887.

Wyman, Walter, Surgeon.—Granted leave of absence for three days, January 14, 1887.

Wheeler, W. A., Passed Assistant-Surgeon.—To proceed to Erie, Pennsylvania, as inspector, January 12, 1887.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 19, 1887.

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ORIGINAL LECTURES.

CLINICAL LECTURE

ON TYPHOID FEVER COMPLICATED WITH ULCERATIVE ENDOCARDITIS AND CATARRHAL PNEUMONIA.

Delivered at the Hospital of the University of Pennsylvania, November 27, and December 4 and 11, 1886,

BY WILLIAM PEPPER, M.D., LL.D.,

Provost of, and Professor of the Theory and Practice of Medicine and of Clinical Medicine in, the University of Pennsylvania.

Reported by WILLIAM H. MORRISON, M.D.

GENTLEMEN,—This young man came to my office four days ago, evidently very ill. I at once sent him to the hospital. He was admitted here the same day, November 23, 1886. He is 22 years of age, and a German by birth. He has had the ordinary diseases of childhood, but has never had rheumatism nor any venereal disease. He enjoyed good health until the winter of 1881–82, when he had what seems to have been, from his account of it, some form of kidney disorder. Following this he had a spell of catarrhal jaundice lasting three or four weeks. Since that time he has never been entirely well. The appetite, as a rule, is poor; thirst excessive; the urine scanty. He has been engaged as a nurse in this and other hospitals. He has also acted as a porter. In June, 1885, he was in this hospital suffering with a catarrhal affection of the intestinal mucous membrane, which lasted three days. In May of the present year (1886) he was again admitted into this hospital, and it was then evident that he had chronic catarrhal nephritis. The legs were swollen, there was pain on micturition, the urine was scanty, albuminous, and contained casts. He improved subsequently and left the hospital, although the legs and feet continued swollen. He went to work and continued for six weeks, when he was obliged to give up. He then had headache and dizziness, with œdema and scanty, high-colored urine. Four weeks ago he began to cough, but this was unaccompanied by expectoration. After the cough had continued a week, he vomited or coughed up a quantity of dark-colored matter, partly liquid and partly solid. This probably was altered blood, but whether it came from the stomach or from the lungs we cannot determine from his statements. Then he had another attack of catarrhal jaundice, and up to one week ago the skin was quite yellow. The cough still continued without expectoration. One week ago the bowels became loose, and he had as many as eight stools in one day. The patient stated that previous to admission he had not had fever; but this is improbable, for when he came here the temperature was 104°.

When admitted, he was dull and drowsy. The breath had a sweetish odor, the pulse was 108, and the respirations 30 per minute, and, as I have stated, the temperature was 104°. The urine was passed with straining, and the act was attended by some pain in the penis. It was high-colored, and the specific gravity was 1026. There was a trace of albumen and an increased amount of indican, but no sugar. The microscope showed a large quantity of phosphates and some swollen granular epithelium stained yellow, and also a few bodies looking like granular tube-casts. The quantity of urine passed was forty ounces in the twenty-four hours. There was some abdominal soreness, especially in the right iliac fossa, and there was some gurgling in that situation. The man complained of headache and loss of appetite. There was cough, but no expectoration. The area of cardiac dulness was not materially increased. At the apex a distinct systolic murmur was heard.

He was at once put to bed and a jacket-poultice applied. Aconite was given in drop-doses every hour, and small doses of opium to quiet the bowels were administered. The evening of admission the temperature went up to 104.2°, and eight grains of antifebrin were given, with the effect of reducing the temperature to 100.4°. The following day, examination of the chest showed some dulness at the bases of both lungs, probably due to hypostatic congestion. The tongue was dry and coated. The drowsiness continued. There was slight epistaxis. The murmur heard at the apex was more distinct and rougher. In the evening the temperature again went up to 104.2°. Sponging of the surface was then resorted to, and the temperature came down to 101.2°. The following morning it was 101°. Expecto-

ration then began, and since then he has been coughing up dark-colored mucus stained with altered blood and presenting a small amount of red blood. Over the base of the lung there was still impairment of resonance. There was deficient expansion of the upper part of the chest. Here and there through the lungs are detected indications of consolidation. For instance, at the upper part of the right lung there is increased fremitus, the resonance is slightly impaired, and the breath-sounds are harsh and bronchial, with prolonged expiration. Posteriorly, over the corresponding area, the same signs are found. Here and there through the lungs fine râles are heard. Last night the nose bled quite freely. The temperature was 103°. To-day the temperature is 102.5°. There is no eruption.

The condition of this patient is evidently a very grave one, and the diagnosis is attended with much obscurity. The history is bad. The man has had a good deal of sickness, for the most part of a catarrhal type, as catarrhal jaundice, gastro-intestinal catarrh, pulmonary catarrh, and, what is most serious, catarrhal nephritis. From the history of the case, I fear that we must assume that there is some chronic Bright's disease. The condition of the urine would not indicate that the kidneys are very seriously affected. It contains only a small quantity of albumen. Forty ounces of liquid are secreted in the twenty-four hours. This is high-colored, and throws down a heavy deposit of urates and phosphates. The man is just recovering from another attack of catarrhal jaundice, but we find no distinct traces of bile pigment in the urine. Repeated examinations of the urine have failed to reveal distinct tube-casts, simply showing bodies looking like broken fragments of tube-casts. The examination of the urine does not give very conclusive evidences as to the existence of serious chronic Bright's disease.

Finding a person in the profound comatose condition which this man presents, it would be easy to say that he is in a condition of uræmic coma from chronic Bright's disease. Such a view, however, cannot be sustained, although we cannot say that there is not some uræmia. The idea of uræmia cannot be maintained, in the first place, on account of the favorable condition of the urine. If the kidneys had advanced to such a state of disintegration that the condition was due to arrest of the function of the kidneys, we should find in the urine more positive evidences of disease. In the second place, ever since the patient came under observation there has been very high temperature. There is nothing in the ordinary condition of uræmia to explain this high temperature. In uræmia there may be some local congestion or irritation which will cause a slight elevation of temperature, but not to 104° and obstinately recurring. We must assume some additional lesion to explain the high temperature, and this additional element probably goes far to explain the present typhoid condition.

Our attention is at once directed to two or three things. In the first place, has not this man typhoid fever? If he has not typhoid fever, might he not have catarrhal pneumonia? Lastly, is it possible that we have here a case of ulcerative endocarditis of the typhoid form? These are the questions which suggest themselves in connection with this serious case.

Has this man typhoid fever? There is much in support of such a view. He has been exposed in many ways; his health was broken down, and he was in a condition to contract such a disease. We have a febrile process of irregular type, about as we should have it in the second week of typhoid fever. The man had lost appetite and had been feeling very ill for a week before he came to the hospital, when we found the temperature corresponding to what is usually found in the middle of the second week of typhoid fever. Then he has had cough. There has been congestion of the bases of the lungs; there has been diarrhœa amounting to several stools in the day. The diarrhœa has subsided under rest, proper diet, and the use of opium. There has been epistaxis. Abdominal pain and tenderness in the right iliac fossa, with gurgling, has also been present. The patient has been dull and drowsy, and irritable when disturbed. All these symptoms are among those of typhoid fever. It is to be observed, however, that the characteristic symptom of typhoid fever, the eruption, is wanting. But before we decide against typhoid fever we must be prepared to say, if it be not typhoid fever, what it is. In any case where there is present a febrile process, you first seek for a local cause to explain the high

temperature; failing in this, we must assume that the fever is essential,—that is, a specific fever. We shall leave for a time the evidences which point to typhoid fever, simply saying that they are suggestive rather than demonstrative.

Is there evidence of any local inflammatory condition which would explain these symptoms? Is there any catarrhal pneumonia? This is a disease which is often overlooked. Its physical signs are sometimes quite vague and indefinite as contrasted with the sharply-cut and easily-recognized signs of croupous pneumonia. The patches of catarrhal pneumonia may be small; they may be deeply seated and widely separated, and you do not find marked percussion-dulness and strongly increased fremitus and resonance. Catarrhal pneumonia is a disease which comes on in low states of the system. It may come on in cases where there has been catarrh of the upper air-passages, which extends downward until the alveolar structure is involved. In catarrhal pneumonia it is not uncommon to have the temperature as high as it has been in this case. The cough is at first dry and hard. Then expectoration begins, the sputa usually consisting of mucus, and gradually becomes purulent in character. As a rule, it is not rusty-colored or blood-stained, yet in low grades of catarrhal pneumonia, where the crasis of the blood is much impaired, or when the disease attacks old people or those much debilitated, there is a great deal of hypostatic congestion, and as a result there may be in catarrhal pneumonia expectoration of blood-stained mucus and of disintegrated blood, and even of a little fresh blood. The expectoration present in this case is therefore not inconsistent with the view that the man has catarrhal pneumonia. Again, catarrhal pneumonia, coming on in a low state of the system, is very apt to pass into a typhoid form. This is particularly apt to occur where the disease affects a person with damaged kidneys. Catarrhal pneumonia is not a rare complication of Bright's disease, and, as I have just stated, it is under these circumstances extremely apt to run into the typhoid form and induce uræmic symptoms. There is therefore much in favor of the view that this man's condition is due to scattered centres of catarrhal pneumonia associated with Bright's disease. As between the adoption of the view that the patient has true typhoid fever or simply the typhoid state with centres of catarrhal pneumonia, I should, in the absence of the characteristic eruption, incline to the adoption of the latter view, and should say that, on the whole, the evidence is against true characteristic typhoid fever. Associated with catarrhal pneumonia there is not rarely a catarrhal irritation of the intestinal mucous membrane. We know that this patient has presented this condition.

Even if we consider the evidence favorable to this view of the case, there is one important point that this condition would not explain, and that is the marked systolic murmur, for which we must find an explanation. This man has not had rheumatism. There is no history of cardiac disease, and there is no record that such condition was detected during his previous stay in the hospital. Neither the presence of catarrhal pneumonia nor of typhoid fever would account for this murmur. The cardiac change is not that which we find in renal disease. The heart is not hypertrophied. If the valvular lesion which gives rise to this murmur had existed for any length of time, we should have expected to find hypertrophy. There is therefore reason to think that this is a recent condition. Is this a blood-murmur, or is it an organic murmur due to alteration in the valve? This murmur is heard at the apex, while a blood-murmur is, as a rule, heard at the base. A functional murmur is soft and not transmitted along the great vessels. This murmur is harsh, and has become rougher while the patient has been under observation, and it indicates—I will not say that it demonstrates—some organic change in the mitral leaflets.

If, then, we have a recent murmur, and it be organic in character, it indicates the presence of some acute endocardial process. We may have acute endocarditis of a simple type or of the ulcerative type. Simple endocarditis might occur as a complication of typhoid fever or of catarrhal pneumonia, or it might occur idiopathically. Whether it were a complication or an independent affection, it would not go far to explain the grave condition in which we find the patient. It would scarcely cause the high fever which is present; it would not provoke this dyscrasia of the blood, and it would not induce the profound typhoid condition which has developed within the past few

days. If there be any endocarditis present, it must be of the ulcerative variety.

Let us for a moment consider this rare affection. Ulcerative endocarditis is an ulcerative disintegration of a larger or a smaller area of the valves of the heart. As a rule, it attacks a heart which is the seat of organic disease. The health of the patient breaking down, violent inflammation attacks the diseased heart and runs into the ulcerative type. The affection may attack a heart previously healthy, provided the condition of the system is favorable to its development. Ulcerative endocarditis may run a very rapid course, and may end fatally in a very few days, or it may continue for weeks. Its symptoms are local and general. Its local symptoms are merely those of endocarditis. A murmur is found usually in the mitral area. The general symptoms are very grave. In the first place, we have fever of a very irregular, remittent type, sometimes associated with a distinct tendency to sweating. With this there is a rapidly-developing dyscrasia of the system, with anæmia, and often there is a slight icterode hue of the skin, which may amount to jaundice. There is excited action of the heart, with a rapid pulse. The spleen becomes enlarged, and there is evidence of pulmonary engorgement. This is due to the fact that in the course of ulcerative endocarditis fragments of the ulcerated tissue are detached and carried with the blood-current into various organs, forming infective emboli, around which secondary changes take place. These emboli may lodge in the lung, giving rise to scattered centres of embolic pneumonia, closely simulating the conditions found in catarrhal pneumonia.

If the evidence as to the presence of typhoid fever is not conclusive, and if we are satisfied that there are in the lungs scattered foci of disease, which, however, fail to explain the cardiac murmur, it is proper to consider whether or not all these symptoms might not be due to ulcerative endocarditis occurring in a broken-down system, where the poisoning of the blood from the endocardial disease, grafted on that due to the damaged kidneys, has developed this typhoid state. Even in those cases where the kidneys have previously been healthy, the occurrence of ulcerative endocarditis is nearly always accompanied by albuminuria and the presence of tube-casts. As you see, we are dealing with a very grave and obscure condition. The diagnosis is rendered obscure by the numerous signs of disease, and by the fact that we have not had the opportunity of observing the case from its very beginning.

Now as to the present condition. He appears to be sinking into a more and more profound stupor, out of which, however, he can be roused; but there could not be a more perfect demonstration of the typhoid state than is here seen. The temperature continues high. As you see, there are symmetrical conjunctival ecchymoses. These may possibly have resulted from the violence of the efforts in coughing. The pulse is rapid and weak. The belly is moderately distended. The cardiac murmur is stronger than when I first heard it.

I do not feel prepared at the present time to formulate a positive diagnosis. I have sketched for you the thoughts which have presented themselves in connection with the case. I should not be surprised if the case turned out to be one of ulcerative endocarditis, with scattered foci of disease in the lungs, spleen, and kidneys. In reference to the indications for treatment, there is no pain, the bowels are quiet, and the fever is readily controlled by sponging and by small doses of antifebrin. The most prominent indications for treatment are to control the heart's action and to relieve the pulmonary congestion-engorgement. In view of the profound depression of the system, I shall give turpentine in as full doses as possible. We shall order ten drops in emulsion every two hours. Antipyrine will be used should the fever become high. The heart's action will be controlled by aconite, and, if the heart becomes weaker, by digitalis. I shall report to you the further progress of the case.

(*Clinical lecture continued, December* 4, 1886.)

GENTLEMEN,—The patient whom you saw last week remains very much in the same condition as he was when before you. One or two points are, however, to be noted as indicative of the progress of the disease. In the first place, the profound typhoid condition has continued. In the second place, he has had stools, at times spontaneously and always liquid and of a yellowish color, like the stools of typhoid fever. There has been some epistaxis. The

bloody, grumous sputum has decreased in quantity and almost entirely ceased. The subconjunctival ecchymosis, which you will remember was symmetrical, involving the lower half of each globe, has increased in size. In addition, an eruption has appeared which at first very closely resembled the characteristic spots of typhoid fever. They were flat, of a reddish color, and scarcely elevated above the level of the skin, and were most marked over the abdomen and the lower part of the trunk. These spots soon became petechial in character. The urine still presents albumen, but no tube-casts. A careful examination of the blood for micrococci, made by Dr. Crozier Griffith, gave entirely negative results. The examination showed nothing unusual in the blood. The condition of the heart has remained about the same, the pulse ranging between 102 and 113 per minute.

The progress of the case during this week has been satisfactory, although it has not enabled us to decide positively with regard to the nature of the disease, but so far as it goes it tends to support the view of typhoid fever and not that of ulcerative endocarditis. When you saw him last week we supposed that the disease had reached the tenth day, and therefore the absence of eruption was against the supposition of typhoid fever; but since then an eruption has made its appearance, but it differs from the normal characteristic typhoid-fever eruption in that the spots soon became petechial.

I will rapidly run over the record of his condition since you last saw him.

"November 26. Free epistaxis.

"November 27. Expectoration consists almost entirely of pure blood. Subconjunctival hemorrhages distinct. A copious movement of the bowels occurred at 10 P.M.; the stool was of a yellow-ochre color, and very offensive.

"November 28. The nose again bled profusely. An eruption was noticed over the lower part of the chest. The belly is somewhat distended, and the spleen somewhat enlarged.

"November 29. The nose again bled. There were two stools, both of which contained liquid blood.

"November 30. Patient was dull and sleepy. The subconjunctival hemorrhages were more marked. The spots of eruption had increased in size, and some had become petechial. The systolic murmur was very distinct. There was no increased development of the signs of morbid action in the lungs.

"December 2. The condition of the patient was worse. He was quite drowsy. There were two movements of the bowels. He coughed a great deal. The murmur at the apex was still quite distinct.

"December 3. The patient was a little brighter; the temperature continued high, and the pulse 112. The spleen was still enlarged. There was some delirium."

What is the influence of the course of the case during the past week upon the diagnosis? I may say that the supposition of catarrhal pneumonia with the typhoid state may be excluded. While there are pneumonic patches throughout the lungs, they are evidently secondary. The renal complication seems to have little influence in causing the condition. It appears as though the man were able to throw off renal lesions with remarkable success. He had catarrhal nephritis. During the past two weeks a large amount of detritus has been thrown upon the kidneys, and they have been required to excrete a large quantity of irritating matter, and yet the urine has improved. Although the quantity is small, from twenty to twenty-four ounces in the twenty-four hours, the albumen has decreased, and no tube-casts are found. The diagnosis seems to be either typhoid fever, complicated with cardiac and renal disease and presenting certain peculiarities, or else ulcerative endocarditis, with a profound typhoid condition. The evidence of the past week seems to be in favor of typhoid fever with some very unusual features. The condition of the bowel, the appearance of the stools, the tendency to epistaxis, and the appearance of an eruption favor this view; yet it is excessively rare in typhoid fever to find the eruption assuming a petechial character. This would indicate, as do the subconjunctival hemorrhages, a degree of alteration of the crasis of the blood which is very extraordinary in typhoid fever.

The history of the past week renders the prognosis more favorable. The fact that he has lived a week in this condition indicates a degree of vitality which we did not expect. The treatment has consisted in the use of moderate amounts of stimulants, with quinine in full doses and turpentine.

[The patient was again brought before the class December 11, 1886, and the following remarks were made:]

GENTLEMEN,—I again bring before you the case which you have already seen. Although the course of the fever has been obstinately sustained, it has, on the whole, been downward. For the past four days there has been no temperature above 103°, and since November 26 it has not been above 104°. There has been a steady and gradual fall in the temperature; the temperature has gone as low as 100°, and even to normal. According to our calculation, the patient has reached the third week of the disease. Two weeks ago he was almost comatose, but it is impossible to look at the man without realizing that his condition has wonderfully improved. His intelligence is returning, and he is able to recognize those around him. He is still jaundiced, this being most marked in the conjunctivæ. The subconjunctival ecchymoses still continue. The pulse-rate still keeps up; it has fluctuated between 116 and 136. The respiration has improved decidedly: whereas two weeks ago it ranged between 38 and 40 per minute, it is now between 24 and 28. The grumous expectoration has ceased, and the cough is a great deal better; the signs of disease in the lungs have gradually diminished; the spleen is not so much enlarged as it was; the cardiac murmur is softer and less noticeable; the whole course of the case has been one of steady improvement from an apparently desperate condition.

The case, however, remains a very anomalous one. Its course would lead us to believe that it has been a case of typhoid fever complicated with extreme dyscrasia of the blood, leading to the formation of petechiæ instead of the ordinary eruption, complicated with catarrhal pneumonia, complicated with jaundice from breaking down of the crasis of the blood, complicated with a hemorrhagic tendency as shown in the ecchymoses and the expectoration of bloody sputa, complicated with damaged kidneys, and, lastly, complicated with a cardiac murmur from endocarditis. The theory of ulcerative endocarditis does not seem to be sustained. Two weeks ago I told you that the evidence favored that view. The improvement in the case is against the idea of ulcerative endocarditis, for, so far as we know, this is an incurable disease. The case, however, presents a great many peculiarities which are very rare in ordinary typhoid fever.

I shall have opportunities of showing you cases of typhoid fever where the disease runs its ordinary course. Typhoid fever may be the mildest of all diseases, or it may be the most virulent. In typhoid fever the special gravity of the case is usually due to severe abdominal lesions, grave pulmonary conditions, or marked nervous disturbances. It is very rare to meet with a case where, although the other symptoms may be marked, there is evidence of intense blood-dyscrasia associated with greatly-enlarged spleen, a tendency to jaundice, and the occurrence of hemorrhages and petechiæ. These are rare conditions in typhoid fever.

The patient has been on the same treatment which I mentioned at the last lecture. The observation of the case will be continued, and I shall report the result to you.

[After the last report the patient grew worse, the jaundice increased, and he again became dull and heavy. There was continued evidence of dyscrasia of the blood in extension of the subconjunctival ecchymoses and the formation of petechiæ. The patient gradually failed, and died December 29, 1886.

The autopsy revealed spots of caseating catarrhal pneumonia, chiefly in the left lung. The intestines showed the lesions of typhoid fever; the ulcers were evidently advancing towards cicatrization. Ulcerative endocarditis of one leaflet of the aortic valve was also found, the necrotic patch being one-third of an inch in diameter and involving the tissue to the depth of one line.

There was also cirrhosis of the liver, and its tissue was deeply stained with bile. The spleen was enormously enlarged, weighing thirty-five ounces. The pulp was quite softened.*]

PROFESSOR SCHROEDER, the eminent author, teacher, and operator, as announced by cable despatch, died on the 7th instant in Berlin. He was in the prime of life, and was prominent in the group of men who have extended the reputation of Berlin as a great medical centre. His clinic was largely attended, and his writings constitute valuable additions to the literature of gynæcology.

* The complexity and interest of this case are such that Dr. Pepper will make it the subject of a more complete report.

ORIGINAL COMMUNICATIONS.

GANGRENE AFTER TYPHOID FEVER.

BY L. HARRISON METTLER, A.M., M.D.

IT is surprising how little space has been devoted in English medical literature to gangrene occurring as a complication, or rather sequel of a complication, of typhoid fever. Though one of the most serious, it is also one of the rarest among the immense number of the sequelæ usually enumerated. In our systematic treatises it receives scanty notice. Reynolds, Bartholow, and Wilson do not allude to it at all; while Flint states that he never saw a case, and hence does nothing more than simply mention it; Murchison, our greatest authority upon typhoid fever, and Hutchinson, in Pepper's "System of Medicine," devote but a few short paragraphs to it; while Gross's "Surgery" does little more than state the possibility of its occurrence. The only approach to anything like an adequate account of the subject that I have found in English is the "Toner Lecture" delivered by W. W. Keen in February, 1876, before the Smithsonian Institute. In the hands of the French writers, however, the subject has received most exhaustive treatment.

I have notes of two cases, which differed somewhat, however, both in their etiology and pathology, so far as the clinical observation could determine, for it was impossible to obtain an autopsy in either instance.

The first was that of a little girl, 10 years of age, who had been under the care and successful treatment of a physician of this city during a long and severe attack of typhoid fever. The child's parents presented a good family history, and previous to the fever the patient had always enjoyed the best health. Convalescence had become fully established, and the child began to mingle again with her playmates in the open air, when one night she suddenly complained of a cramp with excruciating pain in the calf of the right leg. The family physician was summoned early the next morning, and in the course of the next twenty-four or forty-eight hours discovered the following signs of arterial obstruction and approaching gangrene: the skin grew dark and appeared unhealthy, and later exhibited a strong tendency to suppuration; the sensitiveness of the part was so intense that the slightest touch caused the child to scream with agony, this hyperæsthesia extending even to the tips of the toes, but gradually diminishing as the mortification became more pronounced; the local temperature below the knee was lower than normal, while the constitutional temperature remained as in health except at night, when it rose slightly; the pulse was feeble, but regular; no signs of endocarditis or special heart-lesion of any sort; the general appearance of the patient was anæmic.

When I first had the opportunity of seeing the case, which was several days after the first appearance of these signs, the gangrene had made considerable progress and the line of demarcation was becoming well marked just below the knee. After the usual routine treatment for ordinary gangrene had been tried without any apparent improvement, it was finally decided upon to amputate, which operation was performed by Professor Pancoast, at the knee-joint. Six weeks later the child died of exhaustion and impaired vitality.

The second case, though beginning as a *phlegmasia alba dolens*,—a sequel comparatively frequent after typhoid,—is nevertheless interesting as having shown just before the death of the patient a similar tendency to gangrene and consequently an implication of the femoral artery as well as the femoral vein. The patient was a woman upward of 70 years of age, whose right leg became swollen and œdematous during the course of the fever.

Very soon, small, rounded sloughs made their appearance here and there along the front of the thigh, while the limb below the knee began to assume the dark appearance previous to the onset of gangrene. Death from exhaustion and the effects of the fever occurred, however, before the gangrenous condition had made itself more pronounced. Compared with the former case, this one was not so striking, since the age of the patient, with its attendant atheromatous condition of the arteries and senile complications, affected more or less the etiological aspect of the gangrene itself. There was no autopsy.

Now, the question which I wish to consider here is, What is the immediate cause of this gangrene after typhoid fever? At the present time pathologists are generally agreed that the mechanical obstruction of an artery by a clot of blood is the special cause of the gangrene, but as to

the cause of the clot there is still the greatest diversity of opinion. An endocarditis sending forth emboli which finally become fastened in some narrowed portion of the arterial system and thus become the nuclei of the future thrombi, has been assigned as one cause. If this were the case we would expect the gangrene to appear in other parts of the body, say, for instance, the region of the head or of the arm, quite as frequently as in the lower extremities; but, as a matter of fact, out of one hundred and twenty-six localities affected in the cases cited by Dr. Keen, seventy-seven were in the extremities, of which seventy-two were in the legs. Furthermore, endocarditis is a very rare complication of typhoid fever (Wilson). In neither of the two cases reported above could the slightest symptoms of it be detected.

The combined effect of (*a*) "the altered blood," (*b*) "the weakened heart," and (*c*) "the mechanical difficulties in carrying on the circulation, especially in distant parts," has been considered as the cause of the clot. While these are undoubtedly powerful factors in assisting in its formation, yet it does not seem to me, when we study carefully the history of all the cases thus far reported, that any one of these conditions, or even all three combined, are immediately the cause of the clot. These conditions are more or less present in other severe forms of fever, such as pyæmia, puerperal fever, diphtheria, etc., and yet mortification of extensive areas due to an arterial obstruction is never so imminent as in typhoid fever. In the latter these conditions are very constant and well marked; but the gangrene, as Dr. Keen truly says, "is happily a rare complication." Let us consider for a moment or two each of these conditions separately. In the first place, *as to the blood.*

Barié, writing in 1884 for the *Revue de Médecine*, stated that the spontaneous occlusion of an artery by what Virchow calls "marasmic clots," or clots due simply to a certain condition of the blood, "is almost impossible" in typhoid fever, because of the peculiar kind of change in the blood of that fever, represented by a "diminution of the hæmoglobin, of the red corpuscles and plasma." And, again (I quote from Green's "Pathology," page 214), "To whatever cause it may be due, an increased tendency of the blood to coagulate is probably *never more than a predisposing cause of thrombosis.*" Thus the "altered condition of the blood," aside from the fact of its bearing a specific poison of a high degree of virulence, cannot be accepted as any more than a predisposing cause of thrombosis, especially if the endothelium of the arteries remain intact, a condition of things upon which the continued fluidity of the blood is especially dependent.

Secondly, as to the weakened heart, it needs but a moment's reflection to understand that this also is nothing but a predisposing cause in producing a retardation of the blood-current.

Thirdly, as to the mechanical difficulties in carrying on the circulation. This and the weakened heart condition act much in the same way to produce a stagnation of the blood-current, a distended condition of the arteries, and an impaired nutrition of the arterial walls through a consequent abnormal condition of the vasa vasorum, the whole resulting in an arteritis of a degree more or less severe. But how are we to explain the tendency to gangrene which so generally accompanies typhoid fever,—a fact on which M. Behier laid marked stress so long ago as 1857,—and its singular absence in other diseases in which arteritis of the same sort ought frequently to obtain, seeing that in them this condition of the heart and circulation is almost as common as in typhoid fever? It seems to me more reasonable to assume that the infectious material floating in the blood of a typhoid-fever patient possesses such a high degree of virulence as to act more readily upon the coats of the artery, which are already much diminished in vitality by the two mechanical causes just cited. But of this I will speak again, merely wishing to point out here the real influence of these mechanical forces in producing the gangrene.

The more I have studied this question, the more have I been convinced that the production of arterial thrombosis and consequent gangrene in typhoid fever is due in by far the greater majority of cases to an endarteritis assisted by various mechanical factors, but only in the same way that any attack of disease is assisted in its onset by a general cachectic condition of the system at large. I repeat, the immediate cause of this endarteritis is in all probability

the fever-poison in the blood in a condition of extreme virulence. That this is the state of the blood and its effect upon the inner lining of the arteries is established by the "almost constant muscular degeneration" which is so peculiar to typhoid, and which has been attributed to an *inflammatory obstruction* of the arteries supplying the muscular tissues. In this way do Hayem and Martin explain the myocarditis and consequent softening of the heart-muscle. Giraudeau attributes the degeneration of the general muscular system to an incipient myositis, and of the various viscera to the hemorrhagic infarctions, all due to the same cause,—viz., a primitive obliterating arteritis, produced by the highly poisonous condition of the blood. Many other authorities substantiate the same view.

Furthermore, we have cases reported of many other diseases in which arteritis has been attributed to this poison floating in the blood: for instance, variola (Brouardel), diphtheria, marsh miasm (Lancereaux, Verneuil), tuberculosis (Lancereaux), syphilis, and even rheumatism; so that inflammation of the arteries due to this cause is not such an uncommon affair; and how much more would this seem likely to be the cause in such a disease as typhoid fever, undoubtedly produced by one of the most noxious poisons that we know of!

Of one hundred and thirteen cases collected by Dr. Keen, he finds it seldom stated that the arterial walls were diseased. This fact might easily be accounted for by the comparatively incomplete autopsies that were often made in these cases, and by remembering that it requires but a very slight degree of inflammatory impairment of the arterial walls to produce a clot in blood already predisposed to that accident,—indeed, so slight as to be easily overlooked in a general autopsy.

Physiologists tell us that spontaneous coagulation of the blood is prevented in some way by the integrity of the arterial endothelium, and that clotting during life is associated with abnormality of the wall of the vessel in which it occurs (Burdon Sanderson). In speaking of thrombosis, Green states that "abnormality or removal of endothelium is the essential condition" of its occurrence. Hence in Dr. Keen's cases it is difficult to harmonize the presence of the clot with the *reported* healthy condition of the arteries in so large a proportion of them. Trousseau and many other authors are right to a certain extent in attributing the arteritis, when present, to the irritating action of the clot, after the manner of a foreign body. The inflammation is undoubtedly enhanced by the presence of the thrombus after it has once made its appearance, but the explanations of these authors as to the cause of the first appearance of the clot seem to me to be far from adequate. Among those who support the view of a general primitive arteritis occurring in typhoid fever, based upon autopsies made by themselves, we may mention the names of Gigon, Hayem, Patry, Larroque, Behier, Bourdeau, Mercier, Masserell, and others. The site of the clot is determined by causes of a mechanical nature, chiefly by the stagnation and retardation of the blood in the lower extremities. When the patient has reached such a degree of convalescence as to begin to walk about, the poisoned blood has special opportunity to produce its evil results in the most distant parts of the circulatory system, being there held in prolonged contact with the arterial walls, and assisted at the same time and in the same place by the pressure upon them. If the mechanical causes were in this respect alone responsible, why does not the gangrene appear earlier in the course of the fever, when the vitality of the blood and the force of the circulation are at their lowest ebb? Why do we not also have it appearing more frequently in the back, where the blood-stasis is assisted by the prolonged dorsal position of the patient? The bed-sores of this region have no place in this discussion, since they consist of a superficial gangrene produced by direct outward pressure of the superficial arteries, closing them, and thus cutting off the nutrition of the part.

In conclusion, I will repeat that gangrene as a sequel of typhoid fever is due to mechanical obstruction of an artery producing dry gangrene, or of an artery and vein producing moist gangrene by coagulation of the blood; and that this coagulation, while powerfully assisted by causes of a mechanical nature, is primarily due to an arteritis and abnormal state of the endothelium, brought about by the irritating action of the intense fever-poison floating in the blood.

1938 North Broad Street, Philadelphia.

A CASE OF EPILEPSY APPARENTLY DUE TO GENITAL IRRITATION, AND CURED BY CIRCUMCISION.

Read before the Philadelphia Neurological Society, December 27, 1886,

BY WHARTON SINKLER, M.D.

MORE or less difference of opinion exists as to the influence of peripheral irritation in the production of epilepsy. It is not generally agreed that sexual excesses or irritation of the generative apparatus can alone cause true epilepsy; but most writers admit that self-abuse and excessive venery bear a large part in the etiology of the disease, and that, if once established, these habits tend to aggravate and render it more difficult of cure.

Gowers thinks that masturbation in boys is a frequent cause of fits, which, while not genuine epileptic seizures, are convulsions of a hystero-epileptic kind.

Irritation of the prepuce or of the glans penis, even when not associated with masturbation, is believed by many to be the source of divers reflex nervous disorders, including epileptic convulsions, and many operations of circumcision have been done to relieve these conditions, with varying success.

To add some testimony to the subject, I wish to report to the Society the following case of marked epileptic fits associated with irritability of the genitals, and in which the attacks ceased after the operation of circumcision.

Frank P., colored, æt. 3 years and 5 months, came to my clinic at the Infirmary for Nervous Diseases July 19, 1886. His parents are healthy, and have five other children; none of these have had fits, but one has had chorea. He was well until December, 1884, when he had two spasms. These were attributed to teething and taking cold. In January, 1885, he had another fit. The attack was marked, and lasted three or four minutes. Since that time he has averaged one fit a week. The attacks are severe, the convulsive movements being general, and afterwards he is dull and sleepy. For several days past he has had an attack every day.

The child is well nourished, and shows no sign of rickets except that he is backward in teething. He is intelligent, and talks freely. The prepuce is elongated and inflamed at the edges, but can be retracted over the glans. Any touch, however, brings on an erection of the penis. The mother says that he handles the penis frequently, and seems to have some discomfort about it.

He was ordered potassium bromide, gr. ii ter in die. In one week returned and reported having had one attack. The bromide was increased to gr. v given as before.

August 2. The boy has had thirty-five or forty attacks during the past weeks; some days twelve or fifteen fits. He has become unable to speak, and seems to have lost his intelligence. The genitals are very irritable; a touch of the penis makes it rigid. Circumcision was advised, and the operation was performed by Dr. H. E. Goodman on August 9. The bromide was continued in five-grain doses three times a day.

In the week after the operation was done he had two attacks. Since then there have been none. The bromide was taken for about three weeks.

I examined the child on December 27, and he seemed well. He was bright and active, and talked freely.

Gowers speaks of a case of epilepsy in a boy of 13 years who had twelve or fourteen attacks a day under various treatment. It was found that he was addicted to self-abuse, and a blister on the prepuce reduced the fits to from two to seven a day. Circumcision was then performed, and the attacks ceased at once and did not recur. This author advises circumcision in all cases of epilepsy when masturbation is suspected.

THE CARE OF PATIENTS OF DOUBTFUL MENTAL STATE, AND THE PRIVATE TREATMENT OF THE INSANE.

Read at a Joint Meeting of the Philadelphia Neurological Society and the Philadelphia Medical Jurisprudence Society, January 24, 1887,

BY JOHN A. CLARK, ESQ.

THE subject which I have selected for a short paper—The Care of Patients of Doubtful Mental State, and the Private Treatment of the Insane—is one deserving of more practical attention than it has yet received from the community.

There are a large number of nervous cases which appear to hover on the confines separating a morbid condition of mind from actual and pronounced insanity. In most of these cases it is a long time after the development of the early symptoms before the friends and family of the unfortunate patient can bring themselves to realize the gravity of the malady. What they require is some system of prevention which may arrest and ward off an impending derangement of the mental faculties. The patient requires rest and repose, the

absence of all surroundings that can awaken or continue care and anxiety, and a judicious treatment both of the mind and of the physical health.

For persons in such a mental condition there should be sanitariums, or health-resorts, where they would be subjected to such wise moral and physical discipline as would tend to promote their recovery. A separation from their family and friends frequently seems necessary to produce these results. Unfortunately, there seems to be but slight provision for such a class of cases.

Nothing can be more complex or unfathomable than the human mind. The moral treatment of the patient has more potency in promoting recovery than the administration of any drugs or medicines. The anxiety and solicitude of the family of the sufferer often appear to deprive them of the ability to deal with the exigencies of the case as well as comparative strangers might. Yet, when it fully appears that some important step should be taken, they feel the greatest repugnance to consigning the invalid to the walls of an insane asylum, especially when there is a reasonable doubt in their minds whether the person is really insane or not. It is for this very large class of cases that intermediate hospitals are required.

It is probably preferable that such hospitals should be maintained by and under the supervision of charitable corporations, under the wise management of competent and conscientious managers and trustees, although there can be no good reason why private individuals and specialists should not establish and maintain such retreats for those mentally affected.

Crowded asylums must certainly militate against the opportunities of recovery. The environments of the patient are bad. These massive structures, with their frowning walls and battlements, suggest to the unfortunate patient that he has been transferred from the freedom of his home to the desolate loneliness of the penitentiary. He is thrown in contact with the incurable and demented. Man is an imitative animal, whether his mind is clear and normal or diseased by hallucinations. There is certainly a contagion in being surrounded by persons indulging in every possible delusion. How much preferable, then, is the condition of the patient of doubtful mental state when sent for treatment to an institution which is exclusively devoted to the treatment of similar cases! Such a home now exists under the care of the Friends at Atlantic City, where pure air and cheerful surroundings have restored many persons suffering from nervous disorders to perfect health. Such institutions should be established either by the sea-side or in the country, where the patients may have ample opportunity for exercise and recreation in the open air. They should only contain a limited number of patients, and should partake of the character rather of large families. There should be no gloom about such homes, no barriers or walls, no appearance of restraint, nothing, in fact, to impress gloom and melancholy upon the inmates, but all that is cheerful and bright to allure them back, as it were, to mental health. There should be music and flowers, cheerful books, diverting amusements, together with a round of rational employments suited to the tastes of the different patients, which would tend to divert them from the melancholy suggestions of their own morbid thoughts. Above all, there should be intelligent management, and a recognition of the peculiarities and idiosyncrasies of each patient. The attendants should be persons of experience, cultivation, and refinement. They certainly would require the possession of some Christian fortitude to endure the vexatious exactions and irritating caprices of those they have in charge.

It has been said by a recent writer that it is difficult to draw the line between actual insanity and some acute nervous disorders, and therefore many cases have been consigned to an asylum for treatment which are entirely out of place in its associations or under its care. Acute cases of insanity and hybrid types of nervous disorder can be treated and cured without the unpleasant remembrance of an asylum and without the injurious results which sometimes follow the injudicious incarceration of sensitive patients.

It is this consideration which brings us to the conviction that there should be such intermediate hospitals as I have described. They would not interfere in any measure with the asylums now in existence. The care of incurable patients and the treatment of those who have not yet reached the incurable stage should certainly be separated. How much more essential is it, then, that those of a doubtful mental

state, where insanity is not well established, should receive treatment in intermediate hospitals!

The question now arises whether there is anything in the lunacy law of the State of Pennsylvania which prevents the existence of such intermediate hospitals, and, if there is, whether it would be wise to make some new enactments covering such cases. The act of Assembly of May 8, 1883, entitled "An Act relative to the Supervision and Control of Hospitals or Houses in which the Insane are placed for Treatment or Detention," has worked a great revolution in the supervision of this class of persons in the State of Pennsylvania.

This law has been supplemented by the Rules and Regulations of the Committee on Lunacy, which have been ordained by the Board of Public Charities and received the consent of the Chief Justice of the Supreme Court and the Attorney-General, according to the provisions of the act. This act, with the rules before referred to, provides for the granting of licenses for asylums, the admission of patients, and the supervision of such institutions. The personal liberty of the citizen is protected from the possibility of the detention of a sane person, and the management of the asylum is under such supervision as to prevent the abuses which have heretofore crept into some institutions.

This law is a highly commendable one, and the existence of the Committee on Lunacy is one that assures the public mind that institutions for the care and treatment of those deprived of reason are under proper supervision and control. Institutions or individuals complying with the requirements of this act are protected from all judgments against them for the detention of any person unless the judge, after trial and verdict, shall "certify that there was proof to his satisfaction that the party charged acted with gross negligence or corruptly, or that he acted without reasonable or proper cause, or was actuated by motives other than the good of the person restrained."

No person shall be received as a patient for treatment or for detention into any house or place where more than one insane person is detained, or into any house or place where one or more insane persons are detained for compensation, without a certificate signed by at least two physicians agreeably to the provisions of the act and rules heretofore mentioned.

Certainly nothing in this act provides that persons suffering from nervous diseases may not be treated in the intermediate hospitals; but if doubtful cases are so treated, the very doubt implies that receiving such patients for treatment may be an infraction of this law. Persons may voluntarily place themselves in asylums, and may be detained for the time they shall specify by an agreement signed by them at the time of their admission, but not exceeding seven days, and they may from time to time renew the authority to detain them for a time not exceeding seven days from such renewal. No agreement shall be deemed to authorize the detention unless signed in the presence of some adult person attending as a friend of the person detained, in the presence of and also by the person in charge of the house or the medical attendant.

Thus it seems that if there were an intermediate asylum unlicensed by the Committee on Lunacy in which there happened to be two doubtful cases of persons who should prove to be insane, the maintaining of such a house would be in violation of the law. No person could be received for treatment in such a house unless they had the certificate of two physicians as required by the act and rules.

A literal construction of the act would seem to imperil any managers or other persons who would establish an intermediate hospital of doubtful cases without the same rigid compliance with the law which is required of those keeping insane asylums. It is certainly worthy of the consideration of the medical profession and the Committee on Lunacy whether it would not be proper and expedient to secure some additional legislation to provide for hospitals of an intermediate character. One patient can be treated at home, or a physician could receive one such patient in his own house, but not more. It is doubtful whether it would not be ascertained on careful examination that any hospital provided for persons suffering with nervous disorders has at least two patients who are probably insane.

This subject does not appear to have received the consideration of the legislature when the act of 1883 was passed, and it is certainly worthy of discussion at the present time, which should be conducted

in a calm and dispassionate manner, with the hope of a solution which shall be beneficial to patients suffering with nervous disorders which are likely to affect, if unrelieved, the soundness of the mind.

REPORT ON OPHTHALMOLOGY.

BY ALBERT G. HEYL, M.D.,

Ophthalmic Surgeon to the Episcopal Hospital.

EYE-AFFECTIONS IN GONORRHŒAL RHEUMATISM.

DR. RÜCKERT reports the following case. Patient, æt. 29, acquired three years ago a gonorrhœal urethritis, and shortly after a slight eye-inflammation and articular rheumatism developed. During the succeeding two years a number of attacks of eye-inflammation occurred, the precise character of which is unknown. A year ago a new gonorrhœal infection occurred, and almost simultaneously with it fresh pain and swelling of the joints. Two months ago a slight iritis set in, which was cured in about a week. Eight days ago the patient acquired again urethral gonorrhœa, and presented himself at the clinic for eye-treatment. Status præsens: fresh urethral gonorrhœa; both lids swollen, red, with dried secretion clinging to them; conjunctiva in all points hyperæmic, but the palpebral conjunctiva and fornix specially involved; cornea and deeper parts intact. The urethral secretion showed quantities of gonococci, but repeated examinations of the eye-secretion by Professor Sattler failed to demonstrate a single one. Rückert thinks, therefore, that this must have been a gonorrhœal conjunctivitis which was independent of inoculation. Under treatment the inflammation subsided, but on the fourth day of the treatment an iritis developed in the right eye. This yielded somewhat to treatment, and then cyclitis developed, with pain, cloudy vitreous, etc. During this time acute rheumatic affection of various joints occurred, one after another being affected. Patient was dismissed, but two days later presented himself with fresh urethral discharges, apparently due in part to the urethritis not having been completely cured. There was also irido-cyclitis of the left eye, which rapidly yielded to treatment. To prevent recurrence of the cyclitis an iridectomy was made, which did not effect its purpose, for fourteen days after the operation, with simultaneous fresh increase in the urethral discharge, cyclitis again appeared. This was relieved, but again during the succeeding six months several attacks of joint-inflammation and recurrence of the eye-inflammation were observed.—*Klinische Monatsblätter*, September, 1886.

[In this case salicylate of sodium was employed, and evidently with little success. Perhaps the internal use of cubebs or copaiba, as suggested by Jaccoud,* would have succeeded better. The case suggests that in cases of recurring iritis or irido-cyclitis the therapeutics may be at fault, and that besides the local treatment a specific—though perhaps in the present state of medical science unknowable—remedy is required. The presence of the gonococci in the urethral discharge and their absence in the eye-discharge is an interesting fact, which may be studied in connection with the points brought out in the next article in this report.—H.]

PURULENT OPHTHALMIA AND ITS TREATMENT BY HOT-WATER APPLICATIONS.

Purulent ophthalmia is a disease of bacterial origin, and as such is of great interest to the general practitioner.

1. It offers an opportunity for studying the effects of micro-organisms on living tissue in a locality peculiarly favorable for observation.

2. This disease generally comes under the care of the general practitioner at its inception.

3. It very commonly results in blindness, and beyond question in many cases by reason of faulty or timid treatment.

In a paper read before the Medical Society of the State of Pennsylvania by Dr. Heyl, and printed in the *Archives for Ophthalmology* (September, 1886), attention was called to some results of recent mycological research in this disease, and the *rationale* of hot-water applications as a means of treatment. The following is a brief abstract:

1. The disease is due to the infection by a micro-organism known from the name of its discoverer as the "gonococcus of Neisser."

2. This gonococcus attacks the cylindrical epithelium of the conjunctiva, which practically may be considered as being confined to the *palpebral* conjunctiva. The latter is to be looked upon as the culture-

* See Philadelphia Medical Times, November 27, 1886.

ground of the coccus: hence the rule with regard to limiting applications of the nitrate of silver to this structure. This rule, developed by clinical experience, now finds a satisfactory explanation.

3. The growth of the coccus depends on the age and vitality of the cylindrical epithelium.

4. The coccus works its way or is swept into the connective spaces underneath the scleral conjunctiva. This is raised into mound-like prominences by the accumulating cocci; the coccus is carried into the corneal nutrient channels, and a species of necrosis is set up in the hard, unyielding tissue, as a result of which the corneal ulcer is formed.

Two distinct objects in the treatment are to be kept in view:

1. To stop the growth of the coccus.

2. To prevent the coccus accumulating in the cornea, where it does harm not by directly ravaging the tissue, but by blocking the nutrient channels and causing a necrotic ulcer.

The practical value of hot water and the *rationale* of its action in the treatment are then dwelt upon. The method of application is as follows. A basinful of hot water, as hot as the hand can comfortably bear, is placed near the patient, and a handful of absorbent cotton dipped in it and applied to the closed eyelid. As fast as it cools, which may be in a quarter of a minute, it is reapplied. The applications are kept up for five minutes at a time. Three times a day in cases of infants is usually sufficient, although they may be oftener used.

[This extended notice is introduced because the subject is one of great practical importance. These cases of purulent ophthalmia almost always come into the hand of the general practitioner at the inception, and beyond question many a case which has ended in blindness has been the result of the timid treatment which it has received. It is something, then, to know of a simple remedy like hot water, which any one can use, and which may tide the case along until skilled treatment can be procured. Not that other methods of treatment are discredited, nor that hot water will cure all cases. Confessedly the gonorrhœal ophthalmia of the adult is often not very noticeably affected by hot water: the reason seems to lie in the diminished vitality of the tissue-cells of the adult, in consequence of which they respond very slightly to the remedy. This disease of purulent ophthalmia is also very interesting from the mycological standpoint, and in this connection Professor Jaccoud's lecture on gonorrhœal infection (*Philadelphia Medical Times*, November 27, 1886) may be studied.—H.]

THE VISUAL CORTICAL CENTRE.

V. Gudden (Separat-Abdruck aus der *Zeitschrift für Psychiatrie*, Bd. xlii.) gives the results of experiments in cortical localization, from which the following is noted. 1. There do not exist strictly circumscribed areas of cortex cerebri which exclusively and under all circumstances possess definite function, although by no means is the existence of cerebral localization to be denied. At all events, there exist two principal areas (haupt regionen), one for sensation, the other for movement conceptions. 2. V. Gudden denies the existence of the visual centre of Munk, basing his opinion on the following experiment. The eye of a newly-born rabbit was enucleated; as the most of the optic-nerve fibres cross to the other side at the optic chiasm, so ought the supposed visual area on the other side in the cortex to become atrophic if such an area exist. This, however, did not occur. The optic nerve and the corresponding optic tract, with the corpus geniculatum externum and the uppermost gray cap of the anterior corpora quadrigemina, became atrophic, while an apparent atrophy of the occipital lobe was simply the result of displacement of the whole cerebral mass arising from the atrophy of the above-named parts and the orbital changes succeeding the enucleation. Anatomically, the two occipital lobes did not differ from each other.—*Centralblatt für Augenheilkunde*, July, 1886.

EXAMINATION OF THE EYES OF EPILEPTICS.

Schleick communicates the following results of the examination of one hundred and twenty-seven epileptics in the Stetten Hospital in Würtemberg. The majority of the cases suffered from simple typical epilepsy; in a few there were symptoms of cerebral and spinal disease. In ten cases there were anomalies of the eye-muscles: viz., four cases of strabismus convergens, three of divergent squint, two of very decided nystagmus. With reference to the pupillary reaction, in one case there was a decided difference in the width of the

pupils, the eyes being normal in other respects. In a second case there was only minimum reaction to light, but prompt contraction with convergence and accommodation. In nine cases the pupillary reaction to light was very slight, the eyes being normal otherwise. The result of the ophthalmoscopic examinations: In no case was there neuritis optici, choked disk, or pronounced atrophy. In a large number of cases paleness of the outer half of the optic disk was observed. In eight cases in which this was observed the functions of the eyes were preserved. In two of them there were evident hemiparetic symptoms, in a third disturbance of coordination, and in a fourth undoubted paralytic symptoms. In nine other cases the whole papilla was an opaque white, but no functional disturbance of the eyes existed. The whole number of cases in which the above-named ophthalmoscopic appearances were observed to greater or less extent were fifty-two. In one-fourth of them there was distention of the venous vessels.—*Klinische Monatsblätter*, 1886.

[Compare *Philadelphia Medical Times*, No. 500, article by Dr. Oliver.]

EYE-PARALYSIS IN A CASE OF MULTIPLE SCLEROSIS.

Thomsen (*Gesellschaft für Psychiatrie zu Berlin*) reports the following case. Patient, æt. 49, with symptoms of multiple sclerosis, could move his eyes easily to right, left, and downward, but scarcely above the horizontal plane. This defect in the upward movement was rather more marked in the left than in the right eye. The pupil reacted very slightly; both papillæ somewhat pale. The post-mortem showed multiple sclerosis of the spinal cord as far as the upper cervical portion; above this sclerotic patches could not be observed, but there existed a marked ependymitis of the fourth ventricle. The nerve-nuclei in pons and medulla were normal; this was particularly noted of the nuclei of the third nerves. On the other hand, between the cerebral peduncles just at the exit of the third nerves a gumma was found, which on the right side penetrated deeply into the peduncle, reaching the substantia nigra. The root-bundles of the right third nerve were much degenerated so far as they were embedded in the tumor. The left third-nerve bundles were intact.

Sections of the trunks of the third nerves showed the left one to be slightly, the right one greatly, degenerated. The superior recti muscles were normal. This, then, was *not* a case of associated paralysis, but a peripheral lesion, especially of the right oculo-motor. The fact that the great degeneration of the right and the slight degeneration of the left should have induced the same defective motion in both eyes, and had only affected the upward movement, is worthy of note.—*Centralblatt für Augenheilkunde*, 1886.

EYE-SYMPTOMS IN NUCLEAR PARALYSIS.

Schmidt-Rimpler reports the following. The patient, a girl, æt. 20, presented herself with right abducens paralysis. Later on came symptoms of bulbar paralysis; finally, total paralysis of the whole body and face-muscles. Post-mortem showed glioma of the pons, which had made its way into the crura cerebelli ad pontem and the pyramids. Choked disk was absent in this case, only a slight hyperæmia and clouding of the papilla making its appearance two days before death.

Uhthoff reports the following case. Patient, æt. 15, was affected with ophthalmoplegia externa. The movability of both eyes was almost completely gone, medium ptosis and slight paresis of both facial nerves. All other brain-symptoms were absent, and the general condition of health was normal. The affection had existed for three months, and did not seem to vary. In connection with this, Uhthoff demonstrated a specimen taken from a child, æt. 3, who died of general tuberculosis. During life, along with brain-symptoms, there was complete paralysis of both abducens nerves, paresis of both interni, the movements upward and downward also defective. The condition of the pupils normal. Post-mortem showed a tubercular tumor the size of a hazel-nut in the medulla.—*Centralblatt für Augenheilkunde*, September, 1886.

CONGENITAL ANOMALY AT THE POSTERIOR POLE OF THE EYE.

Birnbacher reports the following case. Patient, a man, æt. 21, with poor vision for distance, has $V = \frac{6}{36}$ in each eye when aided by concave 7 D. No scotomata, visual fields normal, refracting media clear. At the macula lutea of each eye there was a well-defined patch of pigment-alteration. The refraction of the patches was myopic,

but very much less so than the surrounding fundus, seeming to indicate that the patches were considerably elevated. The author considers the condition congenital by reason of the sharp outline of the patches and the absence of signs of inflammatory changes in the fundus. [The congenital character of this case may be doubted, although its exact pathology may not be clear.]—*Archives of Ophthalmology.*

FOREIGN BODY IN THE ORBIT.

Dr. Taylor, of Wilkesbarre, Pennsylvania, reports the following. The patient, a child æt. 20 months, in falling forward on the floor, struck his head on a pen-holder which he was holding in his hand. The mother stated that the pen-holder ran up into the left nostril and broke off. Three pieces were removed from the nostril, but later the left eye began to project from orbital inflammation, and the tissues about it became hard and swollen. Any attempt to open the lids seemed to cause great pain. Holding the head firmly between the knees, the lids were opened slightly by an elevator, and a small black object presented itself, which on extraction proved to be a part of the pen-holder, one and one-sixteenth inch in length, one-eighth of an inch in diameter at the smaller and three-sixteenths of an inch in diameter at the larger end. It had remained in the orbit about three weeks, causing intense pain and a high grade of inflammation. Subsequent treatment of instillations of atropine, lead-water and laudanum applications, free incisions into swelling, was followed by rapid recovery. —*Archives of Ophthalmology.*

THE EXOPHTHALMOS OF BASEDOW'S DISEASE.

Professor Hack, of Freiburg, reports the following interesting clinical experience. A lady from early youth had been affected with marked exophthalmos and widely-dilated pupil. This originated in connection with marked occlusion of the nares. The heart was in normal condition until the seventeenth year, when, apparently without cause, darting pain and palpitation in the heart-region developed, which were relieved by digitalis. Pulse 100. The symptoms increased, and the thyroid gland enlarged considerably. The nasal obstruction increased, and, as this seemed to depend on hyperplasia of the turbinated tissue of the two lower and middle turbinated bones, the right lower turbinated tissue was cauterized. On the following day the exophthalmos on this side had nearly disappeared. Cauterization was then made of the left lower turbinated tissue, and the exophthalmos on the left side yielded, but more slowly than the right. The pupils, however, were not affected. The heart-palpitations after a time disappeared. Hack thinks we have in this a clue to the etiology of certain cases of Basedow's disease: viz., an abnormal state of certain peripheral terminal sympathetic organs located in the turbinated tissue.—*Centralblatt für Augenheilkunde*, September, 1886.

TRANSLATIONS.

BOUISSON ON THE DIRECT SUTURE OF THE MEDIAN NERVE.—At a recent meeting of the Biological Society, M. Bouisson showed a patient in whom he sutured the median nerve, and made some observations upon the interesting question of nerve-repair after section. In the wound, above the wrist, there had been a section of the median nerve, the superficial tendons of the forearm, and of the ulnar artery, which was ligatured at both ends. The wound had healed by first intention. Before the operation there was complete insensibility on a level with the palm of the hand. The thenar eminence and the thumb retained their sensibility, though voluntary movement of the muscles of the former was totally abolished. On the morning after the operation, sensibility to contact had returned. Nevertheless, the points of the æsthesiometer were not perceived.

On the following days there were spontaneous pains, beginning at the suture and radiating into the fingers innervated by the median. On the 21st of November flexion was impossible in the thumb, and almost so in the other fingers; faradic contractility was suppressed. On the 23d the patient was able to make a few slight movements with the thumb; sensibility unchanged. On the 27th the patient was able to bring the thumb and index into contact, and also to execute a few rotary movements with the thumb. The prick of a needle

showed that sensibility existed throughout the whole hand, but was less pronounced in the regions corresponding to the median; sensibility to heat was abolished on the middle finger and the index. The second and third phalanges of these fingers were insensible to heat, and apparently so to pain; the thumb retained its sensibility to both heat and pain. On the application of the æsthesiometer, whatever the space intervening between the points, the patient felt only a prick, and that even when one of them was placed on the palmar face of one of the phalanges of the three fingers innervated by the median and the other on another phalanx of the same finger; the effect was the same on the palmar teguments innervated by the median, and also on those of the thenar eminence.

A minute electric examination of the patient was made at the Salpêtrière on the 27th of November, by M. Vigouroux, with the following result. On the healthy side a galvanic current from sixteen elements, $30\frac{10}{1000}$ ampères, one pole on the back of the neck and the other in the fold of the elbow, produced contractions, and, with the negative pole, of the flexors. On the diseased side, the conditions being the same, but with twenty elements, $30\frac{10}{1000}$ ampères, there was contraction only in the flexors. With faradic currents, one pole on the back of the wrist and the other on the muscles of the thenar eminence, the patient felt the current, but there was no contraction, even with the maximum intensity. Galvanic currents produced contraction of the abductor and movements of the thumb; with the poles brought as near together as possible on the thenar eminence, there seemed to be a feeble contraction of the abductor on inversion. One pole placed on the top of the thenar eminence and the other on the external border of the metacarpal elicited by a brisk inversion an almost imperceptible movement of abduction with a current from fifty Leclanché elements, $33\frac{10}{1000}$ ampères. Mechanical excitability remained intact. On the whole, the absence of faradic reaction and the maintenance of mechanical excitability indicated degeneration of the muscles of the thenar, with the exception of the abductor. Nevertheless, the patient presented one of the signs considered as pathognomonic of nervous reunion: pain in the region of the median nerve when the suture was pressed upon, and also spontaneous pains during the first days.

On the 2d of December the two points were perceived in places on the thenar eminence, especially on a line following the border of the metacarpal. Sensibility to the points was totally abolished on the index, middle finger, and thumb. Sensibility to heat and to pain existed on the thumb, the thenar eminence, and in the palm of the hand; it also existed in a less degree on the first phalanx of the index and radius, but was not perceived on the other phalanges of these two fingers. This test was made with a copper ball heated with gas. The patient was able to approach his thumb a little beyond the second phalanx of the index, showing feeble progress. Atrophy of the thenar eminence was now well marked, and there was also a certain livid aspect of the skin of the fingers innervated by the median, a state comparable to local asphyxia in the extremities, and flexion of the second and third phalanges impossible. The case was curious, as it presented an almost immediate partial re-establishment of the nervous functions, while those functions were found to be profoundly disturbed and the nerve degenerated. The apparent partially-restored sensibility and mobility, and the pain in the fingers innervated by the median on pressing the suture, and also spontaneously, are signs of the so-called primitive reunion of the nerve; the test for degeneration and the atrophy of the thenar eminence are proofs of degeneration. Absence of sensibility to the æsthesiometer is a certain sign, according to M. Tripier, that the sensibility found in the region of the median is a borrowed sensibility.

Mouth-Disease of Animals.—At the Academy of Sciences, M. Magitot described a serious malady, similar to scurvy, which had been noticed in certain reptiles, and which was designated by the name of *mal de gueule*. It was characterized by inflammation of the mucous membranes of the mouth, by abscesses, ulcerations, adenitis, etc. The causes of the affection are similar to those that bring about scurvy, — namely, humidity, overcrowding, etc. The buccal mucus contains numerous bacilli, probably of a pathogenic character.

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EDITORIAL.

THE THERMAL DEATH-POINT OF PATHOGENIC ORGANISMS.

THE address of Dr. Sternberg before the College of Physicians on Wednesday evening was a notable contribution to our knowledge of the life-history of certain microbian factors of disease. The determination of the thermal death-point of disease-germs has a very important bearing upon methods of preventive medicine, and possibly of curative therapeutics. No bacteriologist has had more extended experience in this special line of investigation than Dr. Sternberg, and the results of his researches may be accepted as exact and conclusive.

The experiments upon which the conclusions of the eminent investigator are based have been pursued by him for a number of years, and have been variously modified and improved. The method used at present is to expose a pure culture of the organism to be tested for a definite period of time to exactly ascertained temperatures, and note the result upon the power of development of the organism when the latter is subsequently placed under favorable conditions for growth. By repeating the experiments many times and checking each series by a control-experiment, the results obtained must approach absolute exactness.

While in Dr. Sternberg's previous experiments a pretty nearly uniform thermal death-point was determined for a number of pathogenic micrococci, it was generally believed that spore-forming organisms required a higher temperature for their destruction, and that the spores themselves required the influence of a temperature reaching that of boiling water, or even higher, for a prolonged period. Even in cases where the thermal death-point for the developed organisms was low, as shown by Chauveau to be the case with anthrax-bacillus, the temperature required for the destruction of the spores of this organism, according to Sternberg's experiments several years since, equalled that of boiling water (100° C.) maintained for several minutes. The spores of various non-pathogenic bacteria, such as bacillus subtilis, Koch's "garden-soil bacillus," etc., have proved more resistant, requiring higher temperatures or longer exposure to the destructive action of the heat. The varying resistance of the spores of bacillus subtilis to the temperature of boiling water has generally, since Tyndall's admirable experiments, been attributed to the desiccation of the spores. There is also a general belief among bacteriologists that desiccation of the spores of other organisms increases their resistance to the germicidal action of heat or other disinfectants.

In view of the important relations of the recently discovered bacillus of typhoid fever, and the general acceptance of its spore-forming nature, it was important to determine, especially for purposes of disinfection, whether the spores of this organism were more or less resistant to the lethal influence of heat than those of some of the other bacteria mentioned. Sternberg, in a conclusive series of experiments, has now shown that the thermal death-point of the typhoid bacillus, including spores (assuming that its spore-formation is demonstrated), is quite low and entirely within the range of practical measures of disinfection. Similar observations upon the spirillum of Asiatic cholera have likewise shown that a comparatively low degree of heat is sufficient to render it absolutely innocuous.

The thermal death-point of the various organisms is given in the following table. With a few exceptions noted, the determi-

nations were made by Dr. Sternberg. The time of exposure was ten minutes, except in the observations on the cholera-spirilla of Koch and Finkler and Prior, for which an exposure of four minutes sufficed to destroy the life of the organism. The experiments on tubercle-bacillus were made by Schill and Fischer, under Koch's direction, the exposure being for five minutes. Dr. Sternberg does not consider the experiments of Schill and Fischer conclusive, and is now submitting the question to further investigation.

Organism.	Thermal Death-Point. Cent.	Fahr.
Typhoid-bacillus	56°	= 132.8°
Cholera-spirillum (comma-bacillus of Koch)	52°	= 125.6°
Cholera-spirillum of Finkler and Prior	52°	= 125.6°
Cholera-bacillus of Emmerich	62°	= 143.6°
Anthrax-bacillus (without spores, Chauveau)	54°	= 129.2°
Tubercle-bacillus in fresh sputum (Schill and Fischer)	100°	= 212°
Bacillus of glanders (Löffler)	55°	= 131°
Bacillus of mouse septicæmia Bacillus of Rouget Bacillus of Schwein-Rothlauf	60°	= 140°
(These three organisms appear to be identical. They are said to form spores.)		
Brieger's bacillus (from fæces)	62°	= 143.6°
Bacillus of green pus	56°	= 132.8°
Friedländer's bacillus (so-called pneumococcus)	58°	= 136.4°
Bacillus of foul-brood	100°	= 212°
Staphylococcus pyogenes aureus	58°	= 136.4°
Staphylococcus pyogenes citreus	62°	= 143.6°
Staphylococcus pyogenes albus	62°	= 143.6°
Micrococcus of osteomyelitis	58°	= 136.4°
(Probably identical with Staph. aureus.)		
Streptococcus of erysipelas	54°	= 129.2°
Micrococcus tetragenus	60°	= 140°
Micrococcus Pasteurii (Sternberg)	60°	= 140°

No more important investigation into the nature and life-problems of disease-germs has ever been undertaken and successfully carried out in this country, and the College of Physicians is to be congratulated upon its enterprise and good fortune in being the medium through which these researches were first given to the profession.

This communication seems particularly appropriate following Dr. E. O. Shakespeare's report of the results of his personal investigations on cholera, both in Europe and in India, a summary of which has already appeared in these pages.

THE CHOICE OF ANÆSTHETICS.

ON the 9th instant a death occurred in this city, during chloroform-anæsthesia, which directs attention most forcibly to the oft-repeated lesson of the dangers from chloroform, even when employed with greatest care. The patient was an attaché of a menagerie, and a professional lion-tamer, and was apparently of robust constitution and excellent health. He applied for treatment for a false anchylosis of his hand, which had followed an injury some months before. In order to break up the adhesions he was brought before the class at the Medico-Chirurgical College by Professor Pancoast, and the physician who had charge of the anæsthetic was directed to administer only sufficient chloroform to induce primary anæsthesia, during which the adhesions in the wrist could be broken by passive movements. The man complained of the manipulations very much, and at the last inspired the chloroform hurriedly in order to come rapidly under its influence. It was observed that his face assumed a pallid look and his pulse was imperceptible, and, in spite of efforts at resuscitation, he died almost instantly.

At the post-mortem examination it was found that the heart was fatty, and the coroner's physician attributed the fatal result to cardiac failure. He had also cirrhosis of the liver and kidneys.

This distressing occurrence, when taken in connection with the numerous deaths previously reported from chloroform, suggests the question, Is there sufficient discrimination exercised by surgeons in the choice of an anæsthetic for each operation, or are they largely governed by habit and convenience? One surgeon always employs ether, another always uses chloroform, another adopts the A C E mixture of the London hospitals, while others are partisans of the bromide of ethyl, bichloride of methylene, nitrous oxide, or hypodermic injections of cocaine. It is ad-

mitted, however, that there is a sliding scale in the risk of inducing anæsthesia by these agents, at one end of which is the nitrous oxide gas, at the other is chloroform-vapor.

Attention has been repeatedly called to the fact of the extraordinary density of the vapor of chloroform; and its effects in displacing oxygen in the air-vesicles of the lungs (and probably in the red blood-corpuscles) may be in some measure dependent upon this physical fact, as suggested by Dr. William H. Greene in a communication to the *American Journal of the Medical Sciences* some years ago. When injected into the jugular vein, chloroform kills animals by arresting the heart's action and destroying its muscular irritability. In fact, as pointed out by Reichert, all anæsthetics containing a halogen act as cardiac depressants. Therefore, when chloroform is administered, some precautions are necessary to prevent its inhalation in a state of too great concentration and without sufficient dilution with atmospheric air. The use of an apparatus like that of Clover, which allows an admixture of only three per cent. of chloroform-vapor, would greatly reduce the risk from the use of this agent.

Ether, on the other hand, needs no dilution, and, if pure, the vapor may be inhaled almost with impunity, with ordinary care, even in the hands of one not particularly skilled in the use of anæsthetics. It is therefore a safer agent to intrust to the hands of the inexperienced hospital resident than chloroform, ethyl bromide, or bichloride of methylene.

Since accidents during the administration of chloroform usually occur in cases of trifling operations, which all concerned seem anxious to finish with despatch, such as tooth-pulling, surgical manipulations, and opening abscesses, it is worth while to inquire whether or not the fashion of employing a single anæsthetic for all classes of cases should not be abandoned, and recent investigations upon the subject be taken more notice of by the profession generally than seems to be the case at present.

More than a year ago, Brown-Séquard proved that general analgesia could be produced by directing a stream of pure carbonic acid gas upon the larynx at the end of inspiration. Bert has reported interesting and suggestive experiments upon nitrous oxide given under increased atmospheric pressure. Esdaile and others have demonstrated that hypnotism can be applied so as to take the place of an anæsthetic even for large surgical operations, and it has been used successfully during parturition. (This field invites further investigation.) Corning has demonstrated that by incarcerating hypodermic injections of cocaine, even major operations may be painlessly performed. Bonwill, of this city, has established the fact that temporary general anæsthesia can be obtained by such a simple and inexpensive expedient as rapid breathing. Professor Matthews, of Louisville, Kentucky, in a recent report to the State Society, advocates the use of whiskey, and declares that in rectal operations the stupor caused by this agent affords all that is desired in the way of anæsthesia. Opium-narcosis might also be occasionally resorted to, as well as other expedients in use before the introduction of modern anæsthetics. Modern improvements in the preparation of apparatus for the administration of nitrous oxide gas should lead to its more general use by the medical profession. We would urge upon surgeons the necessity of selecting the anæsthetic appropriate to the individual case as carefully as they would prescribe any other therapeutic agent. We do not say that chloroform should never be given; but that, when used, it should be with a full sense of the increased danger, and with the deliberate conviction that any other anæsthetic would be less suited to the patient to be operated upon. The dictum that ether must not be given

to persons with renal disease, or chloroform to persons with cardiac degeneration, must not be taken too absolutely or too literally; in point of fact, the patients who are treated at our clinics rarely have hearts or kidneys to which exception could not be taken by the pathologist.

With regard to the case above mentioned, there can be no doubt that the sudden death was due to the diseased condition of the viscera, as complete anæsthesia was not induced or attempted. Professor Pancoast ordinarily is an ether-giver, but uses chloroform for slight operations, merely to benumb the sense of pain without producing loss of consciousness, in the manner in which it is commonly used during parturition.

EXPERIMENTS UPON THE VIRUS OF RABIES CANINA.

BY invitation of the Philadelphia Academy of Surgery, Dr. H. C. Ernst, of Harvard University, has presented the results of his personal investigations upon Pasteur's method, which in the main confirm the statements made by Pasteur with regard to the effects of inoculations, the existence of some specific virus in the spinal cord of rabbits dying of rabies, and the modifying effects of desiccation and heat. The interesting discussion upon this, which is probably the most important paper read before the Academy this winter, appears in another column.

EXTIRPATION OF THE LARYNX.

AT the University Hospital, last week, Professor Agnew removed the larynx from a patient of Dr. Solis Cohen, for malignant growth involving one arytenoid cartilage but not encroaching upon the glottis. The patient died on the fourth day, with exhaustion. By a singular coincidence, similar cases are reported in the correspondence from London and Baltimore in our present issue.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

HOW the magnificent bequest of Sir Erasmus Wilson to the Royal College of Surgeons ought to be disposed of is one of the questions which is exciting most interest in medical circles here at the present time. That it has excited so much interest is perhaps not altogether to the taste of the Council of the College, who, it is evident, would have much preferred to have been left to expend it after their own fashion, which was, it appears, to devote the whole sum, about two hundred thousand pounds sterling, to the enlargement and maintenance of the museum. This museum is already famous; every medical visitor to London makes one of his first visits to the well-known building, with its heavy Grecian portico, in Lincoln's Inn Fields, where so many valuable specimens have been gathered around John Hunter's collections as a nucleus. The cost of maintaining the museum has been considerable, and has fallen entirely upon the College of Surgeons. The income of the College has been chiefly derived from the fees paid for its diplomas. The Council deliberates in secret, and only such reports can be published by the press as the officials see fit to furnish. It is, however, impossible to expect that secrets which are known to so large a body should long remain secret, and it became known at the beginning of December that the Council had gone so far as to order plans to be prepared for a great extension of the museum, which, according to calculations made by persons acquainted with the existing buildings and the disposition of the property of the College, would swallow up the whole of the Erasmus Wilson bequest. It is understood that an alternative scheme, drawn up by Mr. Jonathan Hutchinson, who is a member of the Council, would have provided all the additional space really needed for the museum at an outlay of one-tenth of the sum. Mr. Doran has written a letter to the *British Medical Journal*, in which he states very positively that no action has been taken by the Council beyond the adoption of a report from the "Committee on the Practicability of Adding a New Wing to the Museum," which report asked for enlarged powers; and, as Mr. Doran has exceptional opportunities for obtaining information of what goes on at the Council, his statement is probably correct. Whether this committee is the same as that appointed to report on the disposal of the bequest has not been stated, but to a committee thus described a very remarkable memorial, presented to the Council on January 13, was referred. This memorial was signed by representative men in medicine, physiology,

and chemistry; by such physicians as Gull, Andrew Clark, Hughlings-Jackson, David Ferrier, and Lauder Brunton; by such surgeons as William Bowman, Henry Thompson, and Erichsen; by such physiologists as Burdon Sanderson, Michael Foster, and Schäfer; by biologists such as Huxley, Moseley, Ray Lankester, Romanes Hooker, and Thiselton Dyer; by physicists and chemists such as Tyndall, Müller, Groves, and Thomas Stevenson; and by such workers in sanitary science as John Simon, Corfield, Cory, and Watson Cheyne. This memorial urged that the bequest should be devoted to founding an institution, under the direction of the College, which should have for its object physiological and pathological research. It will be practically impossible for the Council to ignore the prayer of a memorial signed by such men in the way in which it ignores the recommendations of the Members and Fellows of the College, and Dr. Samuel Wilks, who got up the memorial, has done a great public service, because he has insured that the whole subject shall be thoroughly discussed and examined.

Much may be said both for and against the foundation of such an institution as that contemplated by the memorialists, but it is hardly to our honor that we have not in England a single laboratory where pathological research can be carried on, except the laboratory of the Brown Institution, which is, or ought to be, a veterinary laboratory. There are class-rooms for pathological histology at the medical schools, and the registrars of the hospitals have rooms where microscopical preparations can be made; but this is all.

Mr. Lawson Tait, whose tenure of office as President of the Gynæcological Society has just expired, delivered a valedictory address breathing defiance. The chief *casus belli* was the attitude of certain well-known gynæcologists with reference to the operation for the removal of the uterine appendages; but, in the words of the Shakespearian stage-direction, there were other "alarums and excursions." The vials of his wrath were especially poured out upon Sir Spencer Wells, Dr. John Williams, and the *Lancet*. Mr. Tait particularly objected to the application of the term "spaying" to the operation in question, and if it is only performed when the ovaries are diseased, the objection appears sound; but, so far as I have been able to follow the controversy, this matter of observation is in fact the point in dispute. From a practical point of view, the chief upshot seems to have been that it is now very clearly laid down that those who practise the operation should take the greatest care to explain fully to the patient and her friends that sterility, if it does not already exist, will be produced by the operation. According to Mr. Tait, this sterility does not involve permanent loss of sexual appetite.

The announcement that Sir James Paget, the new President of the Pathological Society of London, would deliver an address on taking the chair for the first time, drew a large audience to the meeting of the Society on January 18. Sir James Paget is always suggestive, and it is a rare treat to listen to one of his thoughtful, closely-reasoned addresses, where every word is well chosen, every sentence neatly rounded, and the whole is delivered with dignity of manner and the most exquisite modulation of voice. It was characteristic of him that though he is, as Sir Joseph Lister said afterwards, the Nestor of the profession, yet he did not look back. "I hope I shall not prove myself unwise," he said, "if I do not take for the subject of my address that kind of knowledge in which alone I might claim superiority over my hearers,—namely, the personal memories of the far-distant past." Pathology, he reminded his hearers, —and it is devoutly to be hoped that his words may not be forgotten,—is something more than morbid anatomy; there is in it work also for the physiologist, the clinical observer, the experimentalist, the microscopist, the statistician, the chemist, the naturalist, the historian, and the psychologist. "Complete pathology," he said, "must be constructed from the work of all these;" they are mutually dependent, mutually corrective; none can alone suffice, and none can safely be neglected. The address was chiefly occupied with the results which might be attained in pathology from practice,—practice studied with the scientific mind, as Edward Jenner studied it,—and especially with the necessity for more minute and accurate clinical observation. In an eloquent peroration he referred to that sad defect of old age, indifference or dislike to the changes which come of the increase of knowledge. "One sees that, as men grow old and wish for rest, they are prone to ask, Where are we to stop? I do not know, more than this: that we must not stop where we are."

At the same meeting of this Society Dr. Ord showed a number of fragments which had been painlessly expelled from the bladder in the case of an old gentleman who had been laid up for the previous four months in bed, owing to thrombosis in one leg. There could be no reasonable doubt that the calculus had undergone spontaneous disintegration. The urine contained sugar, but in varying amount, and Dr. Ord attributed the disintegration in this case to the alterations in the specific gravity of the urine, which, in his opinion, would lead to changes in the laminæ of the calculus analogous to those produced by drying, a process which, as is well known by curators of museums, is often followed by fracture of the calculus.

Mr. Jordan Lloyd has reported in the *Lancet* a case in which he extirpated the larynx for intra-laryngeal growth. The larynx was

freed from all lateral attachments, and the trachea rapidly cut across with Paquelin's cautery, and into the cut end a curved glass tube was at once introduced for about two inches; the administration of chloroform was continued through the tube, while the patient's head was allowed to hang over the table, so that all the blood gravitated into the nares and mouth; the larynx was excised with scissors so as to diminish the amount of hemorrhage. The trachea was sutured to the skin. The patient died of broncho-pneumonia on the sixth day. Two cases of excision of the larynx for malignant disease have been recently performed in London, and in both the patients made a good recovery. One of the patients is a well-known barrister, who has since received a judicial appointment, the duties of which he is at present discharging.

Dr. Octavius Sturges has again taken up his parable on the subject of chorea, and this year estimates that at least one-fourth of the cases which come under his observation are due to some fault in the schools, the causes being over-schooling, home-lessons, excitement in schooling, and caning. The evil he traces to the teachers not differentiating their material in respect of ability, temperament, bodily health, and home circumstances. Whether there is more chorea now in London than there was before education was compulsory it is difficult to prove; but it is quite certain that it is far more often attributed by the parents to something that has happened at school than used to be the case.

It is announced that considerable supplies of strophanthus have now been received in this country from East Africa, and its therapeutic use is extending. The preparation heretofore used for dispensing has been a tincture of the same strength as tincture of digitalis: that is to say, one in eight. The ordinary dose of this tincture of strophanthus was two to four minims; but Professor Fraser, who introduced the drug about a year ago, now recommends as more convenient a tincture of one in twenty, of which the dose will be from five to ten minims. He still recommends that the seeds alone should be used, and that they should be first exhausted with ether to remove the large quantity of inert oil, which, if retained in the tincture, causes it to become opalescent with water; this process, however, adds very seriously to the cost of the preparation, and many pharmaceutical chemists consider it an unnecessary refinement, as the opalescence produced does not materially detract from the elegance of the preparation when dispensed. Professor Fraser finds that the amount of the alkaloid which is contained in the pericarp and the comose appendices of the seeds is not only small, but inconstant, so that preparations made from them would not be of uniform strength.

Dr. Pedley, of Rangoon, gave a curious description of the customs connected with parturition among the Burmese. The woman is secluded in a small room, where a fire is lighted after every aperture has been closed; a scarf is tied tightly around the body above the umbilicus, to prevent the uterus mounting into the chest, while the midwife presses violently on the abdomen; when the head begins to descend, the woman is placed on her back with her knees drawn up, and the midwife, if the woman is a primipara, incises the perineum with her thumb-nail or great toe-nail. As soon as the head is born, the child is dragged out with all possible speed, and the placenta extracted by traction on the cord; if this fails, it is extracted piecemeal with the hand. The only method of assisting the mother is pressure on the abdomen, and for this purpose a plank is placed across the abdomen in obstinate cases, and the attendants use all their force on each end. After delivery, hot bricks or sand-bags are placed on the abdomen, the body is smeared with turmeric, and the vulva plastered with saffron. On the seventh day the patient has a hot pack, and the abdomen is constantly shampooed. The results of this elaborate system of midwifery are stated to be very unsatisfactory.

The Society of Medical Officers of Health have recommended the Commissioner of Police for London to order that cabs which have been used for conveying cases to infectious hospitals should be disinfected free of expense to the cabman, who will also be provided with a certificate that his cab has been disinfected. The cushions are to be stoved, the inside of the cab washed with carbolic acid soap, the metal-work being smeared with carbolic oil, and chlorine gas evolved inside the cab, which should remain closely shut up for one hour.

A shopkeeper, who was not a chemist and druggist, was recently summoned before the magistrate at Sheffield for selling paregoric elixir which contained no opium. It appears, however, that the practice is not illegal. The law requires that all medicines of the British Pharmacopœia shall be compounded according to its formularies; but, as the term "paregoric elixir" is not mentioned as a synonyme of compound tincture of camphor in the *B. P.*, "paregoric elixir" is not a medicine under the Act, and may be made of anything. In another case the same magistrate decided that a preparation which contained any opium and any alcohol might be legally sold as tincture of opium. This decision, if maintained on appeal, would involve every prescriber in serious difficulties. Happily, it appears to be contrary not only to common sense, but also to the express provisions of two Acts of Parliament.

It is reported that a man has recently died of hydrophobia at Bolton three months after being bitten by a dog. The dog, it is said, showed no symptoms of hydrophobia, and

was in good health when killed three months after the bite. The story has been eagerly seized on by the opponents of Pasteur as discrediting the whole modern theory of the nature of rabies. So far, however, no authoritative version of the facts has been put forward, and no proof offered that the man may not have been also wounded by some other animal.

The Registrar-General reported that during the week in which Boxing-Day fell no less than thirty-five children under one year of age died in London of suffocation: this is generally interpreted to mean that they were overlaid by their mothers during drunken sleep.

Nearly every considerable town in England and Scotland is taking steps to commemorate the jubilee year of Queen Victoria, and in a large number of instances it is proposed that the movement shall take the shape of some improvement or enlargement of the existing hospital accommodations; in other instances special efforts are to be made to pay off debts. Some of the schemes, however, are meeting with a good deal of opposition: at Glasgow, for instance, where it has been proposed to erect a new hospital in the southern part of the town, it is urged that the number of beds provided is already sufficient, and that it is hopeless to attempt to raise either the sum immediately required or the annual income which would be necessary. The most portentous scheme has been broached in London: in Gloucester Terrace, Queen's Gate,—that is to say, in the very heart of fashionable London,—a hospital is to be, or perhaps has been, established for the treatment of diseases of the throat, ear, skin, eye, rectum, and various deformities of the human frame. "Only those need apply," the advertisement says, for the surgical appointments "who have had considerable experience in his respective branch." The grammar of the promoters appears to be about on a par with their estimate of the medical profession. The fact is, the Jubilee is being quite overdone: the drapers are having "Jubilee sales;" the coffee-dealers will sell you the "Jubilee blend;" the photographers will provide you with a "Jubilee portrait;" while it is the Americans, I think, who are to organize for us a Jubilee exhibition!

DAWSON WILLIAMS.

BALTIMORE.

THE rare operation of complete removal of the larynx for cancer was performed by Dr. J. H. Branham, at Bay View Hospital in this city, on January 20. The patient was a native of Switzerland, 55 years of age, and had complained of laryngeal trouble for about six months. The infiltration was located principally on the left side and posteriorly, involving the œsophagus. The latter was not discovered until the operation. A laryngoscopic examination had verified the diagnosis previously arrived at from the clinical history. The operation was demanded by several dangerous hemorrhages from the larynx, which threatened to cut short the patient's life.

The operation was done by making an incision from the hyoid bone to near the sternum, exposing the larynx and a portion of the trachea, and then separating the latter and inserting a tracheotomy-tube wrapped with cotton and gum-cloth to make a tampon of proper size to fill the trachea. The anæsthetic was then administered through the tube, through which breathing proceeded without interruption. The larynx was then dissected up and removed. The infiltration of the anterior wall of the œsophagus was so complete that the larynx could not be removed without opening up the former tube.

No vessels requiring ligation were divided. The operation lasted one hour and forty-five minutes.

The patient rallied promptly from the operation, but died thirty-six hours afterwards, of aspirating pneumonia.

The three colored men arrested on the charge of "burking," as mentioned in a previous letter, have been tried during the past week. The principal criminal, Ross, was convicted of murder in the first degree, and the other two, charged with being accessories, have been acquitted on account of lack of competent evidence to convict.

The Enoch Pratt Free Library, under the energetic administration of Dr. Lewis H. Steiner, the librarian, is adding a valuable collection of medical works to its more popular treasures. Among the more recent acquisitions are a complete set of the New Sydenham Society's publications and the official reports of the London Health Exhibition. Some of the more prominent medical journals, among them the *Philadelphia Medical Times*, are also kept on file.

Dr. Julian J. Chisolm, Professor of Eye and Ear Diseases in the University of Maryland, has been elected to the Presidency of the Section on Ophthalmology in the Ninth International Medical Congress. Dr. Chisolm is an energetic and successful ophthalmologist, widely known in his specialty both at home and abroad, and he will doubtless make his Section signally successful.

The Faculty of the Woman's Medical College have instituted a training-school for nurses in connection with the college. Lectures will be delivered eight times a week, by Drs. Browne, Winslow, Cordell, Ashby, Jay, Thomas, Taylor-Norris, and Booker.

Professor Thomas Opie has been elected to the chair of Gynæcology in the College of Physicians and Surgeons, made vacant by the death of Dr. A. F. Erich. Professor Opie also retains the deanship and the professorship of Obstetrics.

A movement is on foot, fostered especially by the Faculty of the University of Maryland, to establish a new lying-in asylum in this city. The Maryland Maternité, an excellently-managed institution, has long and satisfactorily filled a want in this direction.

At the January meetings of the Societies, Dr. Thomas B. Evans was elected President of the Baltimore Medical Association, and Dr. George H. Rohé President of the Medical and Surgical Society. G. H. R.

BALTIMORE, February 5, 1887.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA ACADEMY OF SURGERY.

AT the stated meeting of the Philadelphia Academy of Surgery held February 7, 1887, the President, Dr. D. Hayes Agnew, in the chair, Dr. Harold C. Ernst, of Boston, read a paper entitled

AN EXPERIMENTAL RESEARCH UPON RABIES.

His experiments were performed with three objects in view: first, to determine whether or not there was such a thing as a virus of rabies; secondly, if there is such a virus, does drying at an even temperature modify its strength? thirdly, does the inoculation of such modified virus afford immunity against the inoculation of a stronger virus?

The different series of experiments relating to these various points were then given in detail. The animals used in most of the experiments were rabbits, although guinea-pigs and dogs were also employed.

The following conclusions were reached:

1. That there exists in the cords and brains of animals inoculated in Pasteur's laboratory a *specific virus* capable of the production of similar symptoms through a long series of animals.

2. That these symptoms are produced with absolute certainty when the method of inoculation is by trephining the skull and injection under the dura mater; with less certainty when the inoculation is by subcutaneous injection.

3. That the strength of this virus is lessened when the cords containing it are removed from the animals and placed in a dry atmosphere at an even temperature.

4. That the symptoms produced by the inoculation of this virus only appear at a certain period of incubation, distinctly shorter when the inoculation has been done by trephining than when done by subcutaneous injection.

5. That injections of the virus modified in strength by drying, and in the manner prescribed by Pasteur, exert a very marked protective influence against an inoculation with virus of full strength.

6. That a very moderate degree of heat destroys the power of the virus entirely, whilst prolonged freezing does not injure it.

DISCUSSION.

Dr. E. O. Shakespeare: I had hoped to be permitted to be a silent listener rather than a participant in the discussion. I have been much interested in the lecture and in the way in which the subject has been presented from the stand-point of experimental work. It confirms very considerably some of the notions which I had already formed concerning this matter, from opportunities I had of looking into it while in Paris and in London, and also from some inoculating work which I have had the opportunity to do since my return. I brought home some of the virus from Paris, but I have not as yet had time to do anything but simply keep it alive. The virus which I have originated in Pasteur's laboratory. In making the inoculation necessary to keep the virus alive, I have had more or less opportunity of making some rather careless observations.

In the first place, I have been struck with the extreme regularity of the period of incubation, and also the extreme regularity of the course of the symptoms and the death after the first visible symptoms make their appearance. I have not seen such variations in the period of incubation as those mentioned by Dr. Ernst. The rabbits I obtained came directly from Professor Horsley, of Brown Institution, who is secretary of the official commission appointed by the British government to investigate the Pasteur question. These rabbits were inoculated by Professor Horsley from rabbits which he had inoculated with virus brought by himself from Pasteur's laboratory. The source of the virus is undoubtedly the same as that used by Dr. Ernst. The period of incubation in the first rabbits was about twelve or thirteen days, and the death of the animal occurred about three or four days later. The period of incubation gradually shortened, until for the last few months it has been reduced to seven days. The inoculations have been performed much in the same way as Dr. Ernst performs them. As my object has been simply to continue the virus, I have followed the more certain method of inoculating under the dura mater. Only in two instances have I made subcutaneous inoculations. When I heard ten days ago that this lecture was to be delivered, I thought for the sake of a little observation I would depart from the usual method and inoculate a couple of cats. I had understood that Dr. Ernst had failed to perceive in any of his animals what has been called furious rabies. In Professor Horsley's laboratory I have seen furious rabies both in cats and in dogs. I inoculated the cats under the skin of the back, in the usual manner, from the same cord which I used for inoculation of my last pair of rab-

bits. The rabbits died as usual, but the cats are not yet dead, and they are affected rather differently. One of the cats has the posterior paralysis, its appetite is not natural, but it does not seem to have any fits of excitability or irritation. The other cat shows no symptoms of interference with the strength of the legs, but for the last three or four days it has had a very marked excitability, and it has eaten voraciously, gulping the food down like a famished dog, and has very seldom during that period been noticed to drink anything. When water is placed in the cage it jumps towards it as if famished for drink, but as soon as its nose touches the water it recoils, but there is nothing like a convulsion. I feel that I am unable to add anything to what has been already so forcibly said from the stand-point of experimental research.

There is one point that I have noticed in my rabbits, and it has also been observed by the English Commission. I have sometimes observed, especially towards death, that the condition of the opisthotonos has its exacerbations. This condition seems to have been entirely overlooked by Pasteur. You can often see the head of the animal go up, and sometimes a tremor or twitching of the legs.

From what I have seen of the matter, and from what I have seen of the work in Pasteur's laboratory, I am strongly impressed by the practical truthfulness and justness of the claims of Pasteur not only as to the inoculability of the disease from animal to animal and from animal to man, but that it is a controllable disease by preventive inoculations. The inoculations of animals, I feel, point very strongly to that conclusion. To those who admit that there is such a thing as hydrophobia following the bite of a rabid animal, I see no serious difficulty in assuming, at least from the stand-point of analogy, that what will prevent the disease in the animal will probably prevent it in man. The inoculations which have been made in man since the first one was inaugurated by Pasteur have been very numerous, and it is quite possible that in that large number a considerable portion have been in persons who have been bitten by dogs which were not really mad, but I think, as Ernst has pointed out, the assumption is reasonable that a large number out of the three thousand inoculations which have been made have been in persons who have been bitten by animals really mad. Leaving aside all of the inoculations of those bitten by dogs, and considering exclusively the result of the inoculations of the Russians who have been bitten by mad wolves, it seems to me that this evidence added to the evidence which has already been accumulated, including that most important part offered by Dr. Ernst to-night, shows that the laws which seem to be established concerning the disease in animals apply also to man. It seems that the percentage of mortality in man after the bite of a rabid wolf is, without inoculation, about eighty-two per cent., while the percentage after inoculation has not been more than from five to seven per cent. So far as I remember, only three of the thirty-eight Russians who were inoculated have died.

This is certainly a favorable showing on the side of Pasteur. To my mind the evidence derived from preventive inoculations in man fits very rationally with the justified conclusions which are to be drawn from the experimentation on animals.

Dr. S. W. Gross: The experiments of Pasteur, so ably repeated by Dr. Ernst, show that there is a virus which when inoculated into animals produces a certain set of symptoms. The question arises whether some other form of virus may not produce essentially the same symptoms. In conversation with Dr. Shakespeare soon after his return he told me, if my memory serves me right, that after leaving Paris he went to the laboratory of Koch in Berlin, and that in walking through one of the laboratories he observed some rabbits in a peculiar position, and turning to Koch, said to him, "I see that you are making experiments on the virus of rabies." Koch replied, "No; these rabbits have been inoculated with the virus of tetanus." From what Dr. Shakespeare said, I inferred that the virus of tetanus gave rise to symptoms resembling those of rabies. I would ask Dr. Shakespeare whether or not I have reported him correctly.

Dr. E. O. Shakespeare: I distinctly remember the conversation referred to. I was much surprised, the first morning that I went to Koch's laboratory, to find a young man working with some rabbits in a moribund condition in the identical position in which rabbits usually die after the inoculation of rabies,—that is, with the head as far back as possible and the feet straight out. I remarked to Koch, "I see that you are going over Pasteur's hydrophobia work." "No," he replied; "these are animals which have been inoculated with the bacillus which has been isolated and cultivated from a case of tetanus." The symptoms with which these animals died were much the same as those of experimental rabies. There is this marked difference between the effect of the two poisons: while the period of inoculation in rabies at its shortest is not under seven days, and that is after the virus has been greatly increased in strength, the period of incubation in tetanus is not more than forty-eight hours, and the animals die twenty-four or thirty-six hours later. The earlier symptoms are not exactly like those of hydrophobia. There is a marked periodicity in the condition of opisthotonos in the animals experimented upon with the tetanus bacillus. In the intervals the animals are apparently free from spasms. This is in marked distinction to what is seen in rabies. I might refer to the

fact that within the past few months I have had the opportunity of making two autopsies in cases of tetanus dying at the Philadelphia Hospital. I was also present at the autopsy of a horse dying of tetanus at the Veterinary School of the University of Pennsylvania. I have made cultures from the cords of these cases, and I have growing something which looks like the bacillus which I saw at Berlin. It does not seem to be exactly identical with this, but I have as yet not had time to inoculate it.

I should add that in these inoculations with the virus of rabies I have been assisted by the Secretary of the Academy, Dr. J. Henry C. Simes.

(To be continued.)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, JANUARY 9, 1887.

(Continued from page 327.)

DR. CHARLES MEIGS WILSON reported

THREE SUCCESSFUL TAIT OPERATIONS.

These cases are the first of a series performed without the use of carbolic acid solutions for instruments and without the spray. Hydrant-water boiled for six hours was used for the instruments and sponges in the first and second cases, and a solution of mercuric chloride (one to eight thousand) for like purposes in the third. The wounds in all three were dressed after the manner of Keith. The incisions were less than two inches in length. More than three months has elapsed since the operation in each case before it has been reported. It has seemed best to publish the cases in this manner, because the vast majority of all cases recover without accident from the operation, and hence mere statistics of the healing of the wound amount to little but evidence of individual skill. Statistics of the real relief afforded by the operation is what the profession needs in order to give the operation its just place in modern surgical procedures.

Case I. Myo-Fibroma of the Uterus.—This case first came under observation in July, 1886. She gave her history as follows: Miss McM., æt. 32, nullipara. For the last sixteen months has had a rapidly-growing tumor of the abdomen, menses profuse, catamenial intervals ten to fifteen days; for the past four months has been rarely free from bloody vaginal discharge. She was emaciated and anæmic.

She was very nervous and alarmed about the constant bloody discharge. She had reflex pains, but no ovarian tenderness or pain. She was obstinately constipated, owing to the pressure of the tumor upon the rectum. She was found to have a large fibroid tumor of the fundus and anterior wall of the uterus. The enlarged uterus was incarcerated in the cavity of the pelvis, and was very immobile. The sound entered the uterus seven and one-fourth inches. Abdominal section was performed September 2, 1886, with assistance of Drs. E. Wilson, C. P. Noble, and E. Longaker. The tubes were as thick as the finger; they had thin walls, and were distended with blood. The ovaries were over size, and the right one was cystic. The ligature slipped from the uterine end of the left tube, and before it could be secured there was free hemorrhage. The operation lasted forty minutes. Convalescence was retarded by abscess of one of the suture-tracts. The patient made an excellent recovery.

Present Condition.—Has lost no blood since the second day after the operation: appetite good, and is able to resume her occupation of seamstress; frequently walks two miles to her work; all pain has disappeared; has gained twenty-two pounds since the operation. December 20, 1886, the sound entered the uterus three and one-fourth inches; the tumor was greatly reduced in size.

Case II. Hystero-Epilepsy.—Mrs. C., æt. 30, primipara. Had always enjoyed good health until after the birth of her child six years ago. She had been delivered with forceps, and the cervix and perineum had been badly torn. She was in bed nine weeks after the confinement. No clear history of her puerperal trouble could be obtained. She has had profound catamenial discharges since. About six months after the birth of her child, she first commenced to have attacks of loss of consciousness followed by epileptiform seizures at her menstrual periods. These gradually became so violent as to place her life in seeming jeopardy during their occurrence, and left her utterly prostrated. She had been in bed about twenty days out of every month for four years. Her epileptic seizures occurred only at her menstrual periods. Everything that her medical attendant could think of had been done for her, and her family were about to place her in an insane asylum. The ovaries and tubes were removed October 3, 1886. The operation was an easy and simple one. The patient made a speedy recovery without any untoward symptoms.

Present Condition.—She is now able to earn her living as a yarn-picker, working full time; has had no discharge of blood; little or no pain; *and not one seizure since the day of operation.*

Case III. Tubercular Pyosalpinx.—Miss E. R., æt. 19, nullipara. This patient was also operated upon on October 3, 1886. Since menstruation began, at fifteen years of age, she has had constant dull, aching pain, deep-seated in the pelvis. At her menstrual epochs "her agony has been unbearable." The menses have always been slight in quantity and regular as to time. She presented a badly-

nourished appearance. Physical examination showed marked evidence of general tuberculosis. In spite of this fact, and in view of her intense menstrual pain, oöphorectomy was deemed justifiable, and was accordingly done. Both tubes were as large as large bologna sausages, and both ovaries were cystic. Tubes and ovaries were matted in a mass of adhesions, which rendered the operation very tedious, it lasting one hour and ten minutes. Microscopic examination of sections of the tubes showed colonies of the bacillus tuberculosis. Both tubes were filled with a greenish pus, which was very offensive. The recovery was complicated by an arthritis, the symptoms of which were so obscure as to render it difficult to say whether it was septic, rheumatoid, or hysterical. She eventually made a good recovery.

Present Condition.—Her physician, Dr. Walter E. Bibby, of Kensington, Philadelphia, reports, "She is entirely free from pain, able to walk about and to attend to light household duties. Under the use of cod-liver oil and malt and alcohol, her tubercular trouble seems to be making little or no progress." As her peritoneum showed evidence of tuberculosis, as an experiment, bichloride solution, one to eight thousand, was used to wash out the abdominal cavity.

Cases II. and III. were operated upon before Drs. A. W. Biddle, W. E. Bibby, W. C. Goodell, E. Wilson, E. Longaker, and C. P. Noble. All were done at the Philadelphia Lying-in Hospital. In each case the abdominal cavity was thoroughly flooded with boiled water before it was closed. The drainage-tube was not used. The carbolized Chinese-silk ligatures and silkworm-gut sutures were used. No anodyne was given, and no food was given for thirty-six hours after operation.

Dr. H. A. KELLY was particularly interested in the tuberculous tubes, and regretted that an examination of the uterine discharges had not been made, as it would almost certainly have established the diagnosis. As to the right to operate upon a patient having a cavity in the lung, no general rule can be laid down; every such case stands by itself, and much must be left to the judgment of the operator.

Dr. BAER would hesitate for some time before operating in a case of general tuberculosis with a pulmonary cavity. He did not think tuberculosis could cause pyosalpingitis.

Dr. KELLY remarked that at least two cases have been observed here, and many more abroad, and it has been recently formulated by Professor Hegar among the tubal diseases which may require operation.

Dr. PARISH thinks the general condition of the patient outside of the pulmonary disease would decide the question. Severe pain should be relieved unless the patient had a very short time to live.

HYDROSALPINX.

Dr. H. A. KELLY exhibited the tubes of a patient who had suffered from metrorrhagia over thirteen years. She had been in five large hospitals in Philadelphia without relief, and had faithfully tried every plan of treatment, systemic and per vaginam. The diagnosis of enlarged tubes was made before operation, and on removal with their respective ovaries the tubes were found one as large as a bologna sausage and the other a small sausage, with a limpid fluid. She has lost no blood since the metrostaxis following the operation about six weeks ago.

Dr. KELLY also exhibited fresh large cystic ovaries and tubes of a large fibro-cystic tumor, upon which he had operated in the morning. The ovaries were sessile, surrounded by congeries of great dilated vessels. The operation was one of extreme difficulty. (Note, five days after operation: "The patient's condition is perfect.")

The patient whose history was read at the preceding meeting, who had ovaries and tubes removed for chronic subinvolution and endometritis, was presented to the meeting. She has lost all pain, and feels perfectly well for the first time in years. The uterus is normal.

Dr. PARISH reported a Porro-Müller operation.

W. H. H. GITHENS,
Secretary.

JOINT MEETING OF THE PHILADELPHIA NEUROLOGICAL SOCIETY AND PHILADELPHIA MEDICAL JURISPRUDENCE SOCIETY.

A JOINT MEETING of these Societies was held at the Hall of the College of Physicians, January 24, 1887. The meeting was also the stated meeting of the Philadelphia Neurological Society. The President of the Neurological Society, Dr. S. WEIR MITCHELL, presided.

Dr. E. N. BRUSH read a paper on

THE DUTY OF THE STATE TO THE INSANE.*

DISCUSSION.

Dr. S. WEIR MITCHELL: With reference to the question of joint examinations, I think that the law does not forbid such examinations. It only makes necessary a separate examination by each physician. The joint examination, with all the good that arises from it, may follow. I favor separate examinations. Then the physician makes the whole examination for himself, while in the joint examination there is apt to be too much reliance put upon the opinion of the man older in the case.

Dr. M. O'HARA: It appears to me that the present certificate is a very poor one. It de-

* This communication will appear in the next issue of the *Times*.

bars many from making the examination who should have a right to do so. Any one connected in the most remote degree with an institution cannot sign the certificate. Many physicians cannot be induced to go on a certificate. They are not willing to undertake the risks of subsequent prosecutions for false imprisonment of the patient. There follows, as a necessary consequence, that the practitioners who are probably most conversant with the case—for instance, family physicians —refuse, and thus the patient is handed over to strangers who are willing to take chances. Thus an early care of the insane tending to cure is prevented by the State not protecting medical men who are acting conscientiously in the line of their duty and with their highest judgment. The State should protect a physician, or otherwise give over the whole matter to a judge and jury.

Dr. T. S. SCHULTZ: I should like to emphasize the point in this admirable paper which refers to the present lack of accommodations for those who are not paupers and yet are not in circumstances to pay the rates charged by private hospitals. The law requires that the State hospitals receive public patients to the exclusion of those who can support themselves when there is not room for all applicants. There are many patients whose friends can pay the moderate sum which is charged by the State hospitals, but not any more. So long as these friends refuse to be pauperized by throwing their small means into the poor-treasury, they cannot secure any accommodation. And this their self-respect, which is most commendable, prevents them from doing.

It is, to say the least, unfortunate that such persons, who are often curable, should be crowded out of State institutions, which they assist to support by their taxes, by idiots, imbeciles, and chronic and criminal insane, all beyond the reach of curative treatment.

Dr. H. C. WOOD: I feel to-night like saying a few words in regard to the protection of a class of the community in which I have a personal interest, and among which I long hope to dwell: that is, the protection of the sane. This subject has been forcibly brought to my attention during the past week. While at an insane asylum, visiting a patient, the conversation turned on our lunacy laws, and the gentleman in charge stated that not long ago he had a patient liberated by the Committee on Lunacy who went home, and was at once adjudged insane, and incarcerated in an asylum in another State. I happened to go from there to the house of a patient in this city, and found the family considerably excited. They told me that a friend who had been in an insane asylum for a number of years, whose brother had killed a man and had been acquitted on the ground of insanity, had been liberated by the Committee on Lunacy. Shortly after this I met a physician in consultation, and he told me that not long ago he had sent a patient to the insane asylum, and that he had been liberated by the Committee on Lunacy. The patient then came to his office and told the doctor that he had no grievance against him for sending him to an asylum, but that he had a divine monitor in his breast which told him that the doctor was wrong in the judgment of his case. I do not mention these facts to find fault with the Committee on Lunacy. It is far from my desire to leave such an impression. These occurrences seem to me to indicate some vital defect in the law under which that Committee acts. As I understand it, there is no one on the Committee of Lunacy who would be recognized as an alienist. The law should require some one having experience in this disease to be on the Committee.

Again, I have over and over had my attention brought to cases of dangerous lunatics at large in the community, from whom it seemed impossible to have the community protected. A year and a half ago I was consulted in regard to a gentleman who had attempted first to seduce, and, this failing, to rape, his own daughter, and was only prevented by her outcries being heard outside of the house and bringing assistance. I said that the man was undoubtedly suffering with general paresis, and told the physician in charge that it was his duty to do something to protect the community. The family refused to have the man restrained. The attempt on the daughter was followed by an attempt on a stranger, which also fortunately failed. Yet the man was permitted to be at large for months after this occurrence.

I have been present at a number of trials in which the defence was insanity, and I have never yet seen a case in which the plea of insanity was fairly justified in which it was not equally plain that the man, before the commission of the offence, clearly portrayed that he was a dangerous lunatic. It seems to me that the law should provide that some one having authority should take hold of these cases.

THOMAS W. BARLOW, Esq.: I wish to make a few remarks with reference to the accountability of physicians who sign certificates of insanity. The passage of such a law as would lessen such accountability would, in my opinion, be repugnant to the progress and spirit of the age, the progressive and humane spirit which in this State pervades the laws thrown around those deprived of their reason. For many years laws have been enacted which more closely protect the liberty of the people. In New York State, wives have been permitted to testify where their husbands have been accused of crime. In this State, recently, persons accused of any grade of crime have been permitted to testify for themselves. This has been the spirit

which has pervaded all laws passed within recent years. Now, in my opinion, sir, not only should the physicians be held accountable for what they do, not only should two physicians separately examine the patient who is supposed to be of unsound mind, but if it were possible to throw around such persons a greater protection, I should favor any such enactment.

In reference to the remarks of the gentleman who has just taken his seat, I would ask whether he himself knows or does not know if the woman who was recently released from an insane asylum, and whose brother was acquitted on the ground of insanity, is now a sane or an insane woman? This is the gist of the subject. He gives no instance of her present insanity; he has made no examination of her mental condition. He does not give us the weight of his authority, which is a most excellent one. It seems to me that, for his reasoning to have any weight, we should also have the weight of his opinion. In one instance in which the gentleman was an expert for the defence in the case of a man on trial for murder, the prisoner, four days prior to his execution, threw off the mask and admitted that he had been playing upon the imagination or credulity of his friends and physicians.

Dr. H. C. Wood: I did not give the weight of my opinion in reference to the cases to which I have referred. They were simply things which had called my attention to this subject. I do say that, so far as I know, there is no way, according to the laws of Pennsylvania, to protect the community from a dangerous lunatic if his friends decline to interfere. I have seen numerous cases, one of which I cited, in which criminal assaults were at all times imminent. In regard to the case to which the last speaker has referred, we have often discussed it. The evening is short and the papers are many, and I do not propose to be drawn into a discussion of it tonight. I followed that man nearly to the gallows, and I saw no reason to modify my opinion. In the last days of his life he was in that mental condition in which, under skilful leading questioning, he could be induced to assent to almost any proposition that was made to him.

(To be continued.)

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held January 26, 1887, the President, T. Mitchell Prudden, M.D., in the chair.

DOUBLE MITRAL ORIFICE.

Dr. W. H. Porter presented a heart with a double mitral orifice, the accessory one being smaller than the other. He knew of no similar case.

SYMPTOMS OF FRACTURE AT THE BASE OF THE SKULL.

Dr. Porter said that the case from which the specimen just referred to was obtained was further interesting from the fact that the man had been transferred to Bellevue Hospital, where the diagnosis of fracture of the base of the skull was made, based on the presence of a peculiar serous and hemorrhagic discharge from both ears and bruises upon the face pointing to injury. Death took place a few hours after he entered the hospital, and post-mortem examination failed to reveal any fracture of the skull.

INTERNAL URETHROTOMY USELESS.

Dr. Porter further said that the patient was found to have had a urethral stricture about four inches in length, involving the membranous and bulbo-membranous portion. It illustrated very well the reason for not dividing these strictures by internal urethrotomy, inasmuch as in that operation it was the custom to cut the roof of the urethra, whereas the stricture in this case and in other cases which he had examined was confined to the floor of the urethra.

MILIARY ANEURISM OF THE BRAIN.

Dr. Porter also demonstrated a miliary aneurism of the cortical substance of the brain, it being the clearest example of that lesion which he had yet obtained. The aneurismal dilatation was globular; the proximal part of the vessel next the aneurism was somewhat enlarged and the distal part somewhat narrowed. All the vessels of the body had thickened walls. There were no larger aneurisms.

LEPTOMENINGITIS AND PACHYMENINGITIS.

Dr. L. E. Holt presented the brain of a child, aged 20 months, showing distinctly the lesions of leptomeningitis and of pachymeningitis. It was interesting chiefly in connection with the history, the patient, although weakly and having an irregular temperature a considerable time, not presenting the symptoms of meningitis. Tuberculosis had been suspected, as a twin and the mother had died of that disease, but physical examination had failed to reveal any signs of tubercles. Three or four days before death the temperature steadily and rapidly increased to 105.5°, and a few hours before death to 108°, and there was evidence of meningitis. The leptomeningitis was evidently recent, the pachymeningitis of weeks' or months' duration.

SALPINGITIS.

Dr. Pryor presented, by the courtesy of Dr. Sims, the fundus of the uterus to which was attached a tumor formed by pyosalpinx. The symptoms had been those ordinarily accompanying so-called recurring cellulitis. At

the operation the tumor was found attached to the uterus in such a manner that it was necessary to remove with it the fundus of that organ. The woman died nearly three days later from stricture of the bowel by an old adhesive band. The specimen was interesting from the fact that the tumor contained a number of pus-cavities, the larger of which were supposed to occupy the place of the canal.

Dr. PRUDDEN said he had examined the specimen carefully for bacteria, and he had failed to find any bacteria of suppuration in the pus.

STRICTURE OF THE ŒSOPHAGUS FROM MALIGNANT DISEASE.

Dr. ROOSEVELT presented the œsophagus and stomach of a woman who had suffered from vomiting and pain in the region of the stomach. About six months before death she was first seen by him, and soon afterwards the pain entirely ceased, but she continued to vomit a short time after eating. She was able to take a quart of fluid at a time; and after retaining it for a while it would return without special expulsive effort, and without apparent change. He supposed she was suffering from chronic gastritis, but discovered, on trying to introduce a tube to wash out the stomach, that there was a stricture near the cardiac orifice through which he was able to pass at autopsy a probe only of medium size. The autopsy also revealed dilatation of the œsophagus up to about the level of the thyroid cartilage to nearly the size of a quart champagne-bottle. The stomach was narrowed. The stricture existed near the cardiac orifice, and was due to small nodules surrounding the œsophagus, malignant in nature. One point of interest in the case was absence of pain the last six months of life.

Dr. I. T. VAN GIESON presented a variety of tumors found in different organs of a dog.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, JANUARY 24, 1887.

The President, LAURENCE JOHNSON, M.D., in the chair.

THE USE OF ACONITIA IN THE TREATMENT OF NERVOUS DISEASES.

DR. WAITZFELDER read the paper, first giving the origin of aconitia, a description of the crystalline and amorphous forms, and their physiological action. It appeared that the action of the drug on the nervous centres was, first, that of irritation, and, afterwards, that of paralysis.

As to its use in the treatment of diseases of the nervous system, it was in neuralgias that it is of special service. The experience of authorities in the diseases of the nervous system was first given; afterwards his own experience was related. Dr. Waitzfelder had succeeded in curing some and in relieving others who had suffered from facial neuralgia for a varying length of time. He thought that here its use should be persisted in until it was proved to be without utility, before an operation was determined upon. He had found a combination of aconitia and veratria to act better than aconitia alone for external use. Precaution should be taken in using it over the eye, cuts, or bruises, to avoid constitutional poisoning. It had proved of benefit in two out of three cases of chronic sciatica in which he had employed it. In the treatment of pachymeningitis, whether specific or not, it had occasionally been of benefit. A marked instance was cited, the neuralgic pains being of syphilitic origin, and specific treatment had failed. There was almost always some success in such cases, though not effected so quickly, within three days. He thought it ought to be of service in multiple neuritis from toxic causes, although he had not had experience in this direction. It was of benefit in active congestion of the brain from excessive action of the heart; combined with bromide of potassium, the two drugs shortened the period of excitement and hastened cure. He thought the more important effect was from the aconitia. It was also of use when combined with small doses of bromide of potassium in certain cases of insomnia from business-trouble, etc. Patients with exophthalmic goitre had expressed themselves as feeling better after its use, although it had had no appreciable effect upon the tumor or eyes. It was of use in certain cases of spinal irritation with hyperæsthesia.

Dr. DAVID WEBSTER had found aconitia beneficial in a few cases of nervous affections in which he had seen it employed.

Dr. LESZYNSKY pointed out certain precautions in its use, particularly in conditions where there was a tendency to exhaustion or depressed general health. He had given up its use in sciatica. It was certainly of value in pachymeningitis.

Dr. MESSENGER had also largely given up the drug because of its power and the consequent danger attending its use.

THE RELATIONS OF THE MEDICAL PROFESSION TO THE HEALTH DEPARTMENT.

The paper was written by Dr. JOHN C. PETERS, and in his absence was read by the Secretary, Dr. CARPENTER. It was an arraignment of the Board of Health for dereliction of duty in failing to abate certain nuisances, and charged it with being under the influence of politicians. He thought the President of the Board should be a physician, which the law does not at present permit.

A report from the Committee on Hygiene was read regarding the baling of manure.

Objections to the method had been offered, particularly because the manure was thus spoiled for enriching ground from having lost its ammonia and become "fire-fanged." The following motion was passed:

"*Resolved*, That the Medical Society of the County of New York earnestly requests the Board of Health to abate the nuisance of removal of the manure as it is done at the present time in the city; and until this question is settled it is requested to see that the manure is removed, as other offal is removed, between twelve and three o'clock at night."

The opinion of Justice Sedgwick in the case of Brown *vs.* Purdy, not sustaining the opinion of the lower court, was read by the Secretary.

MISCELLANY.

PHILADELPHIA CLINICAL SOCIETY.—At a stated meeting of the Philadelphia Clinical Society, held January 28, 1887, the following officers were elected:

President.—Dr. James B. Walker.

First Vice-President.—Dr. Mary E. Allen.

Second Vice-President.—Dr. Susan P. Stackhouse.

Treasurer.—Dr. L. Brewer Hall.

Recording Secretary.—Dr. I. G. Heilman.

Corresponding Secretary.—Dr. Emma Musson.

Reporting Secretary.—Dr. Mary Willits.

Counsellors.—Drs. Edward R. Stone, Edward E. Montgomery, Amy S. Barton, A. Victoria Scott, Hannah Y. Croasdale.

NOTES AND QUERIES.

CRUDE PETROLEUM AS AN ANTISEPTIC DRESSING.

Having been in active practice for about twenty-five years in the woods, where accidents are frequent and the resources for dressings limited, I wish to give the results of my experience in treating gunshot-wounds, resections, compound fractures, injections in abscesses, extensive sloughing, snake-bites, and burns, with petroleum. I use the pure heavy oil from the wells of West Virginia. In exploring a wound I use it on the probe or finger. After cleaning the wound, I then pour the wound full and keep it so until it is entirely healed. I will briefly refer to a few cases.

Case I.—P. M., gunshot-wound of upper thigh: poured wound full, after being tamponed on under side; kept it full of oil until it entirely healed, and without a drop of pus.

Case II.—Mrs. S., resection of os calcis: kept wound well saturated with oil; it healed without an unkind symptom.

Case III.—O. D., terribly lacerated hand from gun bursting: kept hand well swathed, using a gallon of the oil, with the very best result.

Case IV.—G. A., legs crushed in saw-mill, compound fracture, with resection: dressed as above; very little suppuration and perfect repair.

I could cite many similar cases. In a lacerated or sloughing wound, it being heavier than the serum and pus, it penetrates every part of the wound and floats them out. In a slicing wound I use white wool yarn (which is slightly elastic) dipped in the oil, and wind the slice perfectly in place, leave it on a week, and find union with no scar. Since using petroleum I have never had a case of erysipelas or septic poisoning from a wound of any description, and as a local application for inflamed surfaces or herpetic eruptions it is the best I have found. The only objections are the slightly unpleasant odor and staining of the linen. But it is clean, grateful to the patient, and perfectly antiseptic. I would recommend for it a fair trial by the profession.

WILLIAM P. MCKIBBIN, M.D.
BUCK VALLEY, FULTON COUNTY, PENNSYLVANIA.

AN EASY WAY OF PERFORMING TRACHEOTOMY.

One of the great drawbacks to performing tracheotomy in cases of diphtheria and croup requiring such relief is the natural timidity and want of self-confidence in the general practitioner, unaccustomed to the employment of surgical measures, and who has a natural shrinking from the use of the knife. All physicians of large experience remember cases in their own practice that might have been saved by operative interference; in country practice more especially, where the family doctor cannot conveniently employ a surgeon, and, recognizing his own inability to operate, the patient has died for want of such assistance.

Now, I propose a way of operating that any doctor of ordinary judgment can do with ease and safety. I do not know whether the idea is original, but I have never seen it in print, and have only discussed it with one or two physicians. The instrument is a curved trocar and canula of large size. Its insertion between the rings of the trachea is readily accomplished, a moment is sufficient, there is no hemorrhage, and when the trocar is removed the canula serves as a tracheotomy-tube already in position. The ordinary instrument will do, but any instrument-maker can make such improvement and alteration as the individual operator may direct.

COMEGYS PAUL.
BELVIDERE, NEW JERSEY.

[It does not appear that our correspondent has yet had an opportunity of carrying out this expedient, which theoretically is simple, but in practice would not always be easy. Where there is much œdema of the neck, or much adipose, great difficulty would probably be experienced in striking the trachea with the trocar or in avoiding transfixing it. Where the neck is thin and the trachea almost subcutaneous, this method might be worth keeping in mind in cases of threatened suffocation. In any case, preliminary incision of the skin would be advisable, on account of the resistance offered by it to the point of the trocar, and after the trachea is exposed most surgeons would prefer dividing the rings with the bistoury. Intubation would in most cases probably obviate the necessity of tracheotomy by any method.—ED.]

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 30, 1887, *TO FEBRUARY* 12, 1887.

MAJOR BLENCOWE E. FRYER, SURGEON.—Ordered to Fort Lowell, Arizona Territory. S. O. 29, A. G. O., February 4, 1887.

CAPTAIN L. Y. LORING, ASSISTANT-SURGEON.—Leave of absence still further extended three months, on surgeon's certificate of disability. S. O. 29, A. G. O., February 4, 1887.

CAPTAIN LOUIS BRUHENSIN, ASSISTANT-SURGEON.—Granted leave of absence for four months, with permission to go beyond sea, to take effect when his services can be spared by his department commander. S. O. 28, A. G. O., February 3, 1887.

CAPTAIN JUNIUS L. POWELL, ASSISTANT-SURGEON.—Granted leave of absence for two months, to take effect when his services can be spared by his department commander. S. O. 24, A. G. O., January 29, 1887.

FIRST-LIEUTENANT C. C. BARROWS, ASSISTANT-SURGEON.—Ordered for temporary duty as post-surgeon at Fort Barrancas, Florida, to take effect upon the expiration of his present leave of absence. S. O. 24, Division of the Atlantic, February 3, 1887.

FIRST-LIEUTENANT JOHN L. PHILLIPS, ASSISTANT-SURGEON.—Leave of absence further extended one month. S. O. 29, A. G. O., February 4, 1887.

FIRST-LIEUTENANT H. S. T. HARRIS, ASSISTANT-SURGEON.—Ordered from Fort Clark, Texas, to Fort Ringgold, Texas. S. O. 16, Department of Texas, January 31, 1887.

FIRST-LIEUTENANT LEONARD WOOD, ASSISTANT-SURGEON.—Ordered to proceed to these Headquarters, and report to the department commander for temporary duty. S. O. 12, Department of Arizona, January 31, 1887.

FIRST-LIEUTENANT PAUL CLENDENIN, ASSISTANT-SURGEON.—Ordered for duty as post-surgeon at Camp Pena Colorado, Texas. S. O. 14, Department of Texas, January 26, 1887.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 5, 1887.

COLLEGE OF SURGEONS LIBRARY

ORIGINAL LECTURES.

ON ELECTROLYSIS IN THE TREATMENT OF STRICTURE OF THE URETHRA.

Delivered, by invitation, at the Medico-Chirurgical College of Philadelphia, February 5, 1887,

BY ROBERT NEWMAN, M.D.,
New York.

WHILE electrolysis is an established fact, explained in every text-book on chemistry and made use of in commercial circles and even by mechanics, it has taken the medical profession, at least in some quarters, a long time to recognize its importance in surgery.

The term *electrolysis* is defined as the process of decomposing a compound body by electricity. Applied to strictures, the action is "a galvanic, chemical absorption." *Absorption* is the process or act of passively disappearing into some other substance through molecular or other invisible means; *e.g.*, the absorption of light, heat, or electricity. Pathological products may be made to disappear in this manner. Electrolysis of light currents will induce absorption, while in strong currents it will destroy tissues. For the treatment of urethral strictures we depend, therefore, on the physiologico-chemical decomposition of the morbid products by electrolysis which absorbs and does not destroy tissue. I will first direct your attention to the exhibition of instruments necessary for the operation.

Any good *galvanic* battery of twenty cells can be used for electrolysis. The expert and specialist may have large instruments with auxiliaries, but the general practitioner can begin by using a small battery, which suffices for most of the operations. The Bunsen elements of zinc and carbon have given the best satisfaction, with cells made of hard rubber containing a solution of dilute sulphuric acid and bichromate of potassium. The fluid ought not to be too strong, or the action will be very violent at first, and the polarization too rapid, very soon weakening the current and incrusting the elements with crystals. The battery must be arranged for intensity rather than quantity. Practically speaking, the current must not cauterize the surface, or cut and destroy tissue like the galvano-cautery, but must work in the manner already indicated. The main point is to use the constant current of the galvanic battery, and not an interrupted current of a faradic or electro-magnetic machine. The difference can be seen here by the two different instruments made by Flemming, of this city. I have also brought with me an old instrument, which I used many years ago, made for me by the late A. Chester. It is so simple that its construction can be seen at once. To this battery are attached the conducting wires.

In order to use electrolysis intelligently, it is of the greatest importance to know the difference and peculiar action of the two poles. If we decompose water by electricity, we find that the oxygen is attracted by the positive, and the hydrogen by the negative, pole. Now, we should remember that *pure* water is not easily decomposed, but the difficulty is overcome if the water holds some salts in solution. If so, then the positive pole will attract the acids, and the negative the alkalies and bases. Hence it is that the positive pole acts like an acid and burns like fire; not only is this exceedingly painful, but it may leave a hard resilient cicatrix. On the other hand, the negative pole acts more like a caustic alkali, which does not hurt so severely during the application, and leaves, if carried to excess, a cicatrix which is soft and not retractile. Having become acquainted with the different properties of the poles, which possess each their own specific powers, it is evident from the foregoing that for the immediate destruction of tumors and strictures the negative pole should be selected. Therefore the principal actions of the poles in electrolysis will be as follows:

Positive pole coagulates the blood, and attracts acids and oxygen.

Negative pole dissolves the blood, attracts alkalies, bases, and hydrogen, coagulates albumen, and produces absorption.

To illustrate the action of the poles as described, I will now electrolyze a solution of iodide of potassium in water. This can be done by simply holding both poles in the solution while the galvanic battery is generating electricity.

The experiment, however, which I now will make before you is more strikingly

demonstrative, and I believe is original with me. These two small glass vials I fill with a solution of iodide of potassium. The bottoms of the vials are substituted by a piece of a pig's bladder, the necks of the vials are then stopped by a cork, through which runs a platinum wire, one end of which is immersed in the solution, and the other end from each bottle is attached to one pole of the galvanic battery.

Both vials, so closed, are now placed in a dish of water; they are six inches distant from each other. There is, as is seen, no communication between them except the water, and so long as the battery is at zero you will see no change in the solution, which is transparent and undisturbed. Please notice the change which now takes place as soon as the battery begins to act. I begin with only six cells, and you will notice almost immediately in the vial connected with the positive pole that in the clear solution streaks of yellow appear, and in about five minutes the vial contains only a dark-yellow fluid, which is the iodine set free at this pole. At the negative pole the contents of the vial remain clear, only the bubbles of froth welling up. This is the hydrogen set free from the water. The result of this electrolysis is iodine, oxygen, and hydriodic acid at the positive pole, while at the negative pole we find hydrogen and potassium.

If this same experiment be tried with a faradic battery, as I have often verified, no change whatever takes place in the solution. This is another proof that the action of the galvanic current is widely different from that of the faradic, and that for electrolysis a galvanic current only can be used.

Now, let us make another experiment to demonstrate the action of electrolysis with a stronger current, which will destroy tissues. Into a piece of raw meat we insert, at an interval, two platinum needles, each of which is connected with one pole of the battery. The action of each pole can now be distinctly observed, and we recognize the action of the negative pole by its white bubbles, which form a large surface of white froth around the needle, while at the positive pole we find a black, charred surface, indicative of the destruction like that caused by a concentrated vegetable acid.

The battery should never be used for an operation before it has been ascertained to be in good working order. There are several ways of doing this after the elements have been immersed into the fluid.

1. By taking one pole in the hand and touching the other on the tongue. This is disagreeable, and may hurt the operator.

2. By holding the poles on the hand, which also is unpleasant.

3. By touching the carbons or metals of the two poles against each other, when a spark will be seen. This is good, but must be done with care, as a too long contact of the pole will polarize the battery.

4. By the use of a galvanoscope. If the poles are touched, the needle will move towards the positive pole.

5. In the same manner, with a galvanometer or ampèremeter.

6. If the two poles are held in water the bubbles around the one pole will show that the battery is in order, and that this is the negative pole attracting hydrogen.

7 and 8. The former experiments with meat, or the decomposition of a salt.

We now come to the method of application.

The short, curved electrode which I show you here is a perfect instrument, smoothly polished, without any inequalities, and well insulated except at its extremities. The terminal is silver-plated, an egg-shaped bulb of metal, to be used at the seat of the stricture. The set goes from No. 11 (French) up to No. 30. The other set is made in the same manner, but straight, six inches long, and at the end a bulb of an acorn-shape. This form is used for the first five or six inches of the urethra, and particularly for strictures near the meatus. In very tortuous strictures, when it is difficult to find the course of the urethra, I use tunnelled electrodes over a guide or a filiform bougie.

I next show you a milliampèremeter, which is used to measure current-force of the electricity. As these instruments are comparatively cheap (can be bought from ten to thirty-five dollars), it is well that every operator should possess one. I have been wrongly accused of neglecting to express the electricity by measures, and only stating how many cells were used. I have used the number of cells only that it should be understood by everybody, but I always recommend a true measurement. An ampère is equivalent to the strength furnished by an electro-motive force of one volt passing through a resistance equal to one ohm. The cells of my battery give a tension of

half a milliampère. Therefore if I state I have used eight cells, it means generally four milliampères. This calculation varies somewhat according to other influences, but particularly according to the internal and external resistance. Good instruments which measure exactly, without fail, are too costly to be used ordinarily by the practitioner of medicine.

The *modus operandi* is usually as follows. After the patient's history has been taken, the topography of the urethra should be well ascertained and the strictures measured,—how small they are, how many, and the distance from the meatus at which they are located.

The exploring instrument transmits to the fingers certain sensations, which experience soon classifies, and which culminate in a high tactile expertness. I use for the purpose a whalebone *bougie à boule*, which has a small olive-shaped head and slender neck; this adds to its flexibility. Such an exploring instrument gives, from its peculiar shape, a delicacy of touch not to be obtained by any other known bougie. It defines with scientific exactness the nature of the stricture; the progress of altered tissue can be ascertained and defined by it with a comparatively small experience and with great certainty.

Assuming that the diagnosis has been made and the preceding means employed in order to ascertain the condition of the stricture, certain sensations will be revealed by touch; and in order better to comprehend this I may compare them with some well-known material, such as a feeling of velvet or velveteen, of paper, of parchment, or of cartilage.

In the normal state of the urethra the bougie glides with comparative ease over its moist mucous lining. The skilled finger will readily detect any alteration or deviation, its relative and comparative severity, and the slightest encroachment on its normal standard will be revealed. The velvet touch represents a slight alteration only.

For ocular inspection of the urethra I have always used the endoscope, when necessary.

The patient's susceptibility to the galvanic current is to be learned by applying it to his hand or some other part of his body. The posture which the patient should assume during the operation is a matter of slight importance: according to his convenience, he may stand, sit, or lie on his back with his shoulders elevated and his knees drawn up. Anæsthetics are not used, because no pain should be caused, and because the patient ought to be conscious, so that he can express his sensations. For ordinary strictures, the size of the bougie selected should be three numbers (French) larger than the stricture.

The fluid of the battery should not be made too strong.

The elements of the battery are immersed in the fluid, the slide standing at zero.

The electrode is well greased with glycerine, which is a good conductor.

Having ascertained by actual measurement the locality of the stricture or strictures (if there be more than one), I push a small india-rubber ring over the bougie for each of them. This little manœuvre has many advantages: not the least important is that I am made aware as soon as the india-rubber ring arrives at the meatus that the extremity of the bulb must be in contact with the stricture.

Having the plan of the urethra from actual measurement before me, I operate with additional certainty, and beyond a peradventure as to the part which is acted upon.

This bougie electrode is then introduced into the urethra until the bulb is arrested by the stricture. A sponge electrode, wet with warm water and connected with the positive pole of the battery, is then held firmly against the patient's skin (best in the palm of the hand or pressed against the abdomen, the thigh, or some other part), to complete the circuit. While both poles are held in this manner, the current is to be increased very slowly and gradually, one cell at a time, until the patient feels a warm and slightly pricking sensation. The operator should keep the bougie steadily against the stricture, and he will soon find absorption taking place, the stricture yielding, dilating, and the instrument slowly advancing and passing the obstruction: at times it fairly jumps through the stricture. If there are more strictures than one, the bougie should be guided in the same way until it enters the bladder. Then the electrode is to be withdrawn slowly, and each stricture well worked out until the first stricture is passed, when the current is again to be reduced slowly, cell by cell, to zero; and not until then is the electrode to be removed. During the whole operation the electrode must be held

loosely and gently in its place against the obstruction, all pressure or force being avoided. The bougie will take care of itself, doing its work by the electrolytic action of the current. A *séance* might last from five to twenty minutes.

The observance of the following rules would conduce to success:

1. Begin the use of electrolysis carefully, not cauterizing, but only causing absorption, six cells being enough in many cases, or a current-strength of two and a half to five milliampères.

2. Regulate the current according to the susceptibility of the patient.

3. Repeat the *séances* at intervals of three or even four weeks, the shorter intervals being exceptional.

4. Do not lubricate the electrode with a non-conducting substance.

5. Wet the sponge electrode with hot water.

6. Keep the plates in the battery-fluid only during the operation.

7. Never use force with the bougie; never cause hemorrhage.

8. Do not operate while the urethra is in a state of acute or subacute inflammation, or when the application causes pain.

9. Do not use the battery-fluid too strong.

10. Never use two bougie electrodes in succession at one *séance*, or follow the bougie with any other instrument.

11. Do not push the bougie to and fro in the urethra; it must be passed only once down and back again, and that with care.

In conclusion, I will merely say that all urethral strictures are amenable to this treatment by electrolysis, but the great advantages of this treatment I cannot discuss, as the hour has expired.

68 West Thirty-Fifth Street, New York.

ORIGINAL COMMUNICATIONS.

DESCRIPTION OF THE BRAIN OF JOHN M. WILSON, RECENTLY HANGED AT NORRISTOWN.

Read before the Philadelphia Neurological Society

BY FRANCIS X. DERCUM, M.D.,

Pathologist to the State Hospital for the Insane at Norristown; Instructor in Nervous Diseases in the University of Pennsylvania.

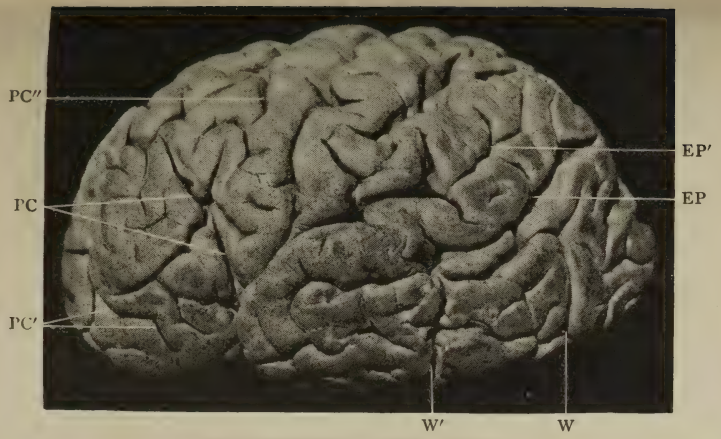
THE brain came into the possession of the writer accompanied by a portion of the dura mater and the other enveloping membranes. Drs. R. H. Chase and Henry Sykes made a verbal report to me in reference to the skull. In the first place, the head was unusually large, while the face was disproportionately small. On opening the cranium, over six ounces of cerebro-spinal fluid escaped. The bones were very thin, and the sutures all completely fused. The dura was thickened and decidedly adherent to the inner surface of the calvarium, thus giving evidence of external ossific pachymeningitis. The pia was thickened, loose, and excessively œdematous. Its meshes were everywhere filled with fluid. In addition, it was injected and presented numerous milky opacities, such as are not infrequently found in alcoholic subjects. On the mesial surfaces of the hemispheres the two opposed layers of the pia, where not separated by the falx, were everywhere coherent, thus showing positive inflammatory change.

The two hemispheres were unequal in size, the left being much the larger. The lateral ventricles were somewhat dilated, and their walls excessively pale, as were also the walls of the third ventricle. The white substance of the brain, too, was likewise unusually pale, though here and there some of the smaller vessels appeared injected, probably due to the mode of death. The velum interpositum was infiltrated. The pineal gland was large and œdematous.

The brain throughout was exceedingly soft. The crura, pons, cerebellum, and medulla partook in general of the character of the hemispheres.

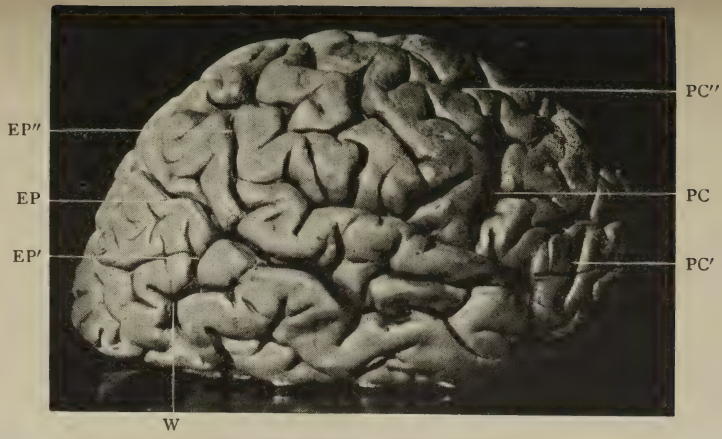
The brain—all fluid having been allowed to drain away—was weighed, the weight equalling fifty-seven and a half ounces. Its great size was very striking.

The most interesting feature, however, in connection with this examination was the study of the convolutions. Taking up, to begin with, the left hemisphere and studying its lateral surface, we notice at once an unusual degree of confluence between various fissures, and also the presence of a large number of abnormal fissures. For instance, the fissure of Rolando is superficially confluent with the Sylvian, being separated from the latter by the merest strip of tissue. The precentral fissure is freely confluent with the Sylvian. The interparietal is confluent with a small transverse fissure cutting deeply into the *pli de passage supérieure*



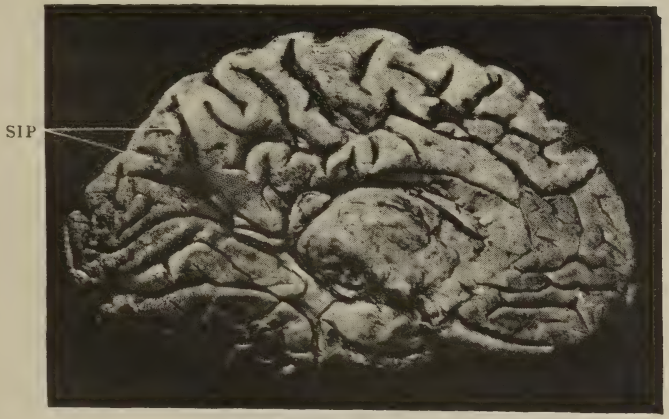
LEFT HEMISPHERE.—LATERAL SURFACE.

PC = precentral fissure. PC′ and PC″ = unusual precentral fissures. EP = external perpendicular fissure. EP′ = vegetative repetition of EP. W = Wernicke's fissure. W′ = vegetative repetition of W. EP and W, taken together, form an irregular arc. EP′ and W′ also suggest an incomplete second arc.



RIGHT HEMISPHERE.—LATERAL SURFACE.

EP = external perpendicular fissure. EP′ and EP″ = vegetative repetitions of EP. W = Wernicke's fissure. As in the left hemisphere, EP and W constitute an arc. PC = precentral fissure. PC′ and PC″ = unusual precentrals (vegetative repetitions). In advance of W is a short perpendicular fissure which suggests a second Wernicke.



LEFT HEMISPHERE.—MESIAL SURFACE.

SIP = superior internal *pli de passage*.

RIGHT HEMISPHERE.—MESIAL SURFACE.

SIP = superior internal *pli de passage*.

externe, and evidently a detached portion of the parieto-occipital fissure. This is an ape-like characteristic. Other evidences of confluence can be seen in the parallel fissure, which is confluent with a number of perpendicular fissures.

Some of the abnormal fissures of the lateral surface are of morphological significance; others must be regarded as purely pathological. Studied from before backward, they are as follows. First an abnormal perpendicular fissure close to the apex of the frontal lobe. It starts from the anterior portion of the third frontal convolution, which it incises; then passes in a more or less perpendicular direction upward, prevents the normal development of the second frontal fissure, cuts deeply through the second frontal convolution, and finally fuses with the first frontal fissure. Secondly, the fissure occupying the position of the normal precentral fissure presents a very unusual appearance. A fissure confluent with the Sylvian passes upward and joins as normally the second frontal fissure. At this point, however, it becomes more like a cleft than a fissure, and deeply incises the second frontal convolution, becoming all but confluent with the superior frontal fissure,—is in reality superficially continuous with it. Again, at the point of junction with the second frontal fissure, two abnormal fissures arise, one passing obliquely downward into the operculum, the other obliquely upward and backward into the posterior portion of the second frontal convolution. An irregularly stellate arrangement is thus produced.

As occasionally found in other brains, the superior frontal fissure is confluent with a perpendicular fissure, really a precentral fissure, just in front of the fissure of Rolando. It is large and deep. We thus have in this frontal lobe three well-marked perpendicular or precentral fissures. The significance of this fact will be presently discussed.

The parietal, temporal, and occipital lobes also present a number of remarkable fissures, all of them having a more or less perpendicular direction. For instance, directly opposite the parieto-occipital fissure is found an external perpendicular fissure, homologous doubtless with the corresponding fissure in the apes. It runs obliquely downward, and in the lower portion of its course it is confluent with the parallel. In advance of and pursuing a similar direction to this fissure, and separated from it by what is apparently the angular gyrus, is another perpendicular fissure. It separates the angular gyrus from the supra-marginal lobule, is shallow and blind at both ends, though at first sight it appears as though confluent with the Sylvian. It is doubtless a "vegetative repetition"* of the first-mentioned perpendicular fissure.

A deep and well-marked Wernicke's fissure is present. It pursues an almost perpendicular course downward, immediately beneath the first-mentioned external perpendicular fissure. Strange to say, in advance of it—parallel to it, though separated from it by a large block of tissue—is found another vertical fissure, corresponding doubtless to the above second-described external perpendicular fissure, and, like it, a "vegetative repetition." This fissure deeply bisects the temporal lobe, and is confluent with the parallel.

On the occipital lobe the interparietal terminates, as normally, in a transverse occipital fissure, and below this a parallel "vegetative repetition" (a second occipital fissure?) is found.

The mesial surface of this hemisphere, upon being examined, proves no less interesting. The calloso-marginal fissure is more complex than usual by a tendency to confluence with fissures pursuing transverse or perpendicular directions. The quadrate lobule is large, and contains an unusually deep, irregularly H-shaped fissure. The most remarkable feature of the mesial surface, however, is that the parieto-occipital fissure is bifurcated. This bifurcation is produced by the development of a highly aberrant convolution, the *pli de passage supérieure* INTERNE of Gratiolet. This remarkable convolution the writer had never seen developed to the surface in any human brain, with the single exception of that of an epileptic; in which, however, it was comparatively small. This internal superior *pli de passage* is normally developed in the anthropoid apes, notably the chimpanzee. In the present instance it has the shape of a large equilateral triangle, encroaching markedly upon the cuneus. The latter is relatively small. The calcarine is long and sinuous, and termi-

* See Proceedings of the Academy of Natural Sciences, Philadelphia, 1878. Communication by Dr. A. J. Parker.

nates without bifurcating on the apex of the occipital lobe. It is superficially confluent with the fissura hippocampi, as the gyrus fornicatus is at this point submerged. Beneath the calcarine is found a shallow "vegetative repetition." A deep collateral fissure is present.

The right hemisphere resembles in a general way the left. It differs, however, as follows. In the first place, the tendency to transverse fissuration, so well marked in the left hemisphere by the presence of three (precentral) perpendicular fissures, is much less pronounced on this side. A faint depression alone marks an analogy to the first precentral fissure of the other hemisphere; the second (the normal) precentral is not confluent with the Sylvian, and, though deep, is not by any means as complex as its fellow on the opposite brain; while a third precentral, though present, is much smaller than its opposite fellow.

The fissure of Rolando is superficially and irregularly confluent with the Sylvian. The fissure of Sylvius, though short, presents nothing worthy of note beyond a superficial confluence with the anterior portion of the interparietal. The latter, with the exception just mentioned, giving off a small retro-central branch, pursues an average course, winding around an unusually large *pli de passage supérieure externe*, and finally terminates in a small transverse occipital. The parallel fissure is remarkable for being confluent with no less than three external perpendicular fissures. The middle and principal one of these arises opposite the parieto-occipital fissure, and, passing downward and forward, becomes confluent, as just stated, with the parallel. The one anterior separates, as upon the opposite hemisphere, the angular and supramarginal convolutions. It is also deeper than its opposite fellow. It runs directly downward, and is confluent with both the interparietal and parallel fissures. The third and posterior runs downward and forward, approaching more nearly a horizontal direction. It is deep, but terminates superficially in a well-marked Wernicke's fissure. This last-mentioned fissure is remarkable for being *directly continuous* with the middle or principal external perpendicular fissure. By this means the occipital lobe is sharply demarcated from the parietal and temporal lobes, thus reproducing the condition found in the apes.

Upon the mesial surface the same tendency is observed, as in the opposite hemisphere, of confluence of the colosso-marginal fissure with transverse or perpendicular fissures, though it is here less marked. The quadrate lobule again is very large, and marked by unusually deep stellate fissures. As upon the opposite side, the parieto-occipital fissure is bifurcated. A superior internal *pli de passage* is present, though it is very much smaller than upon the opposite side. Strangely enough, the superior external *pli de passage* is relatively very large on this side, whilst upon the opposite hemisphere, in which the *internal* convolution is so large, the *external* convolution is relatively small. The cuneus is a trifle larger than upon the opposite side. The calcarine is smaller, and less sinuous, but terminates without bifurcating, as in the opposite brain. The calcarine, however, *passes directly into the fissura hippocampi*, the gyrus fornicatus being here entirely absent. This is another striking ape-like characteristic.

In taking a general glance at this remarkable brain, it is evident, as pointed out by the writer in a recent paper on "Epileptic Brains," that two powerful factors have combined to produce this distorted and aberrant organ. In the first place, there was in this brain a distinct morphological factor: that is, the line of development, instead of following the direction usual in the human brain, was deflected early in its course, so as to reproduce more or less perfectly structures and conditions found in the apes. The term "arrest of development" will hardly cover the production of ape-like structures such as instanced in the superior internal *pli de passage*. It seems, indeed, as though arrest of structure in one part necessitated the hyperdevelopment of some other part. Now, forcible arrest of growth readily presents itself as an interfering or deflecting cause. Let us reflect a little further, and the difficulties may solve themselves.

What is the meaning of this thin, large, and dilated skull? What is the meaning of this transverse fissuration of the brain? Evidently the two go hand in hand. Evidently this large, excessive brain-mass developed under pressure, and transverse clefts, most marked at the two poles of the brain, were the natural result. But is this all? Why does this transverse fissuration simulate so closely the fissuration found in

the apes? Evidently those areas of the cerebral cortex in man which most distinguish him from the ape are of *late*—of *recent*—development. They represent, therefore, areas in which the developmental force, or growth-force, is relatively weak. Given, then, an interfering or repressive cause, these areas are the first to yield to the stress of circumstances. They remain undeveloped. *Their very absence, however, necessitates the reproduction of other portions, portions long disused, and therefore rudimentary or absent in the normal state.* In this way the writer would explain the production of such a wonderful structure as that represented in the *pli de passage supérieure interne* of this brain.

If this view be correct, the pathological factor is, after all, dominant, and in the present instance the condition of the skull and the evidences of inflammatory changes in the membranes certainly help to bear it out, as does also the microscopic examination. Sections were prepared by Dr. Ida V. Reel. They were taken from the paracentral lobules of either hemisphere. They show, in certain portions of the white matter, decided increase of the neuroglia, dilatation of the periganglionic lymph-spaces, with consequent or concomitant shrinking of the cells, an increase in the number and tortuosity of the vessels, here and there a capillary with its walls infiltrated with nuclei, and sometimes a dilated perivascular space. In one and the same section, however, are found cells which present nothing abnormal whatever. Doubtless enough of such tissue was present to maintain cerebration.

The writer refrains from making comments on the mental condition of the possessor of such a brain. He does not, however, believe that any one with a full knowledge of the facts would predicate of such a brain a normal mind, and yet such an individual might be perfectly able to appreciate the consequences of crime, to differentiate between right and wrong, and to be, in the eyes of the law, a responsible individual. With this, however, the pathologist has nothing to do.

THE HOSPITAL OF THE JEFFERSON MEDICAL COLLEGE has just come into possession of a bequest of a hundred thousand dollars, through the hands of Professor William S. Forbes, who for several years had held the amount in trust from the estate of the late Mr. Louis Audenried, of Philadelphia.

THE DUTY OF THE STATE TO THE INSANE.

Read at a joint meeting of the Philadelphia Neurological and Medical Jurisprudence Societies, January 24, 1887,

BY EDWARD N. BRUSH, M.D.,

Senior Assistant Physician, Pennsylvania Hospital for the Insane, Male Department.

THE embarrassment of my situation this evening will, I hope, be appreciated, and the crudity of my remarks be excused, when I say that only five days ago was I made aware that a paper was expected from me.

The subject which I have chosen is one to which I have given some thought and investigation, but the time has been too brief to place my ideas in orderly relation to each other, or to gather the scattered host of authorities and references which I might otherwise marshal to my support.

What I have to present, therefore, is thrown out more with the hope of provoking discussion and interest in the subject than with the idea of enlightening any of the members of these two Societies, so many of whom have had larger experience and achieved riper judgment than I have.

There can be no question of the duty of the state to care for its wards in accordance with the best judgment of the time, and to keep pace with the progress which a better knowledge is making for their protection, relief, or, if possible, cure.

Following, as we so closely do in many other things, the English law and practice, it has come to be an accepted fact that those who, from birth or by reason of the accidents and ills of life, are *non compos mentis*, are peculiarly deserving of the watchful guardianship of the state. The earliest English laws had only to do with the estates of these unfortunates, which were the king's prerogative, and out of which their owners were, by legal provision, provided for in accordance with the customs of the time. It came to be observed in time that enactments which had regard only to the estates of the insane did not meet all the requirements of the case, and that the persons as well as the estates needed care and custody. Having in view always the "liberty of the subject," which could not be violated without due process of law and for good and sufficient reason, statutes were framed which permitted the restraint of the insane, confining the application at first to those only who were manifestly dangerous to themselves or to others. Gradually the ques-

tion of confinement for curative purposes came to be considered, and its necessity admitted, until at the present time all civilized countries recognize in some way the legality of commitments to asylums and hospitals of those of the insane who are not of necessity dangerous, but whose detention is justified by the exigencies of treatment.

It is the natural outgrowth of all theories of government which pretend to be paternal in form that the state should afford to its citizen protection, and particularly so "when he is without the use and enjoyment of his mental powers." The means to this end will always be a fair measure of the degree of advancement in civilization attained by the state.

In caring for her insane wards the state should seek those means which shall best accomplish—

1. The protection of the insane from themselves and from the cruelty and neglect of others.

2. The protection of its sane citizens from the violence of the insane.

3. The restoration of the insane to a condition of sanity.

I have placed these objects in the order in which they are usually enumerated, and in which the law usually regards them. In the order of their importance they should be reversed, for the restoration of the insane to a condition of sanity implies the accomplishment, in the course of its attempt, of all the others.

It is, I think, a fact which cannot be controverted that the insane are best cared for and their recovery most surely accomplished in organized hospitals devoted to their special treatment. This is certainly true of those of the indigent and pauper class, who cannot afford to make the arrangements which would otherwise be necessary, and I feel confident that the hospitals of the future will afford to all classes such accommodations that private care will be as unnecessary as it is often unwise.

To insure the proper treatment of its insane wards it becomes the duty of the state to make such provisions that all its insane can find ready and proper treatment in its hospitals.

In England and Wales the census of 1880 returns, on the 1st of January, 71,191 lunatics, idiots, and persons of unsound mind. Of these there were in county and borough asylums, hospitals, and district asylums, 44,035 paupers, 3513 private patients, and 655 criminals; in licensed houses, 1084 paupers, 3404 private patients, and 61 criminals; in workhouses (corresponding to our almshouses), 11,991 paupers; residing with relatives and others, 5980 paupers and 468 private patients.

It will be seen that of the 63,090 pauper insane, 45,219 (or nearly seventy-two per cent.) were in hospitals or licensed houses, and but 11,991 (or about seventeen per cent.) in the insane wards of workhouses, and these are, as required by the Commissions of Lunacy, only of the most quiet and harmless kind. Of the private insane, 7385 in all, all but 468 were in hospitals or licensed houses.

Let us compare this with the condition of the insane in the State of Pennsylvania, as shown by the United States census of the same year. Of the 8304 insane in this State, as enumerated in the census of 1880, but thirty-six per cent. were in organized hospitals, eighteen per cent. in almshouses, and forty-six per cent. at home. Massachusetts had sixty per cent. in hospitals, nine per cent. in almshouses, thirty-one per cent. at home; New York, fifty-seven per cent. in hospitals, eleven per cent. in almshouses, and thirty-two per cent. at home. Of all the large States, Pennsylvania had the smallest proportion of her insane in hospitals, and the largest in almshouses and at home.

Of all the insane in the United States in 1880, nine per cent. were resident in this State. Of all the insane in hospital but seven per cent. were in Pennsylvania, while sixteen per cent. of all those in almshouses were in Pennsylvania.

Here is a condition of affairs that may well attract attention. I am happy to say that since 1880 a larger number of insane have found accommodation in the hospitals and asylums of this State; but the number is still far below what it should be. According to the second annual report of the Committee on Lunacy of this State, its hospitals afforded accommodation for but 44.5 per cent. of the insane. As the hospital accommodations have not been increased, the percentage at this time is much smaller, owing to the natural increase and accumulation of chronic cases.

Having made suitable provision for the insane, the question of the legal admission and detention of this class is of next importance.

The majority of the enactments in force in the United States and, indeed, in England to-day appear to have been framed under a most remarkable suspicion that the citizens of the state were in constant danger of being spirited behind the bars of an asylum and forever disappearing from the view of mankind.

So strong appears to have been the conviction that medical men were ready to conspire to commit their fellow-citizens to asylums for the insane, and that the medical officers of asylums were waiting to aid and abet them, that the law of this State to-day directs that each examiner shall see and examine the patient separately, thus debarring each and the suspected lunatic from the benefits of conjoined examination and consultation.

Hear what an eminent English author, for many years Lord-Chancellor's Visitor in Lunacy, says upon this point, which also finds a lodgement in English lunacy law:

"It seems, if one thinks of it, a strange embodiment of jealousy and distrust; for in other instances where the opinions of two or more medical men are required, the opposite course is taken in order to secure the great advantage of combined observation. When in any other form of disease it is desired to confirm the opinion of one medical man by that of another, what would be thought of the wisdom of a proposal that each man should examine the patient separately? When medical men examine a patient together, they usefully check each other, and are of the greatest mutual assistance in observing correctly and estimating rightly the symptoms of disease, a consideration of the greatest importance in cases of mental disease, whereof the main symptoms are words spoken by the patient, which often convey a different meaning to the minds of different people. If the lunacy laws had not been imbued with distrust of the medical profession, they would never have contained an enactment abrogating all the advantages of medical consultation. Rather would they have enacted that the examination should be a joint one, the opinion concurrent, and the report thereof, or certificate, mutual."

In view of the assertion and implication that the insane are improperly committed, it may be of interest to examine the testimony of the late Lord Shaftesbury, for over forty years the head of the English Lunacy Commission,—a man who was eminently entitled to be called the friend of the insane, and whose whole life was spent in improving their condition.

In his testimony before the Parliamentary Committee of 1877 he says, of the one hundred and eighty-five thousand certificates of lunacy that had passed through the hands of the Committee from 1859 to 1877, that he is "quite certain"—I quote his own language—"that out of the one hundred and eighty-five thousand there was not one who was not shut up upon good, fair, *prima facie* evidence that he ought to be under care and treatment." Speaking further upon this subject of commitment, he said that, in his opinion, sufficient safeguards were thrown about the liberty of the subject.

If the insane are to be cared for with their recovery in view, every obstacle, as far as practicable, should be removed from their early commitment to asylums and hospitals. Experience has taught that recovery is to be expected only when the case is placed early under treatment.

Sir James Coxe, long the head of the Scotch Committee on Lunacy, a body which has done all in its power to encourage early treatment, testified that every impediment which is thrown in the way of early treatment acts most prejudicially upon the patient by tending to render permanent the aberration. Referring to the experience of the Scotch asylums, whose large percentage of recoveries is due to the fact that early commitment is encouraged and facilitated by the law, he says, citing the example of the Renfrewshire asylums, where the highest percentage of recoveries and the shortest duration of treatment has been attained, that in these particular cases this is brought about by the fact that the directors of the poor can put a patient in the asylum without any difficulty, and that discharge is equally easy.

Dr. Harrington Tuke, before the same Committee of 1877, testified that, in conjunction with the late Dr. Conolly, a man who certainly would not unadvisedly suggest asylum-restraint, he had examined the statistics of three asylums with which they had been connected, and found that seventy-seven per cent. of cases treated while the insanity was of less than three months' duration recovered. Those treated at later periods diminished in absolutely

geometrical ratio until, after twelve months' duration, it was something like twelve per cent. of recoveries.

These statistics bear out some calculations of my own, made at the State Lunatic Asylum at Utica five years ago, and published in the Asylum reports. Of the admissions to that institution for ten years, aggregating four thousand one hundred and twenty-nine insane persons, thirty-two and a half per cent. recovered. Of those insane a year and over, but twelve and one-third per cent. recovered; while of the entire number insane under twelve months, forty-four per cent. recovered.

At this point reference may be proper to the unfortunate result of agitation concerning lunacy matters and the suspicion cast upon asylums and their management by newspapers, legislative committees, etc.

In New York State, the year 1878 marks the commencement of a series of most malignant attacks upon the asylum-system of the State, resulting in no less than five legislative inquiries, which have, I am happy to say, resulted in a vindication of the asylum officials and the lunacy laws of the State from the charge of improper commitment to asylum or unjust confinement or treatment therein.

The results as concerns the unfortunate insane were not so happy. For seven years (1872 to 1878, both inclusive) the average percentage of cases admitted to the asylum at Utica who were insane a year or more on reception was thirty-three and one-third. In 1879 it rose to thirty-five and one-half, and in 1884 it reached fifty-one and six-tenths, the average for the second period of seven years (1879–1885) being forty-five per cent. of practically chronic cases.

The second, third, and fourth reports of the Committee of Lunacy of this State will show that from forty-two per cent., or a little over two-fifths of the admissions, for the past three years to all the organized hospitals and asylums of the State, seventy-three and two-thirds, or nearly three-fourths, of all the recoveries were drawn.

These reports will also show that fifty-eight per cent. of the cases admitted to the hospitals and asylums were chronic cases.

What is the remedy? Primarily, it seems to me, the creation of a public sentiment in favor of hospitals and asylums. The removal as far as possible of the feeling of distrust and suspicion which now surrounds the subject is necessary to induce the friends of the insane to take advantage of the facilities offered them for treatment.

It is of course implied that the State shall furnish sufficient accommodations for its insane before asking its citizens to take advantage of them.

One great obstacle which lies in the path of early asylum-treatment is the objection which physicians have against signing certificates of insanity.

The law places upon them the onus of saying not only that the person examined is insane, but that he is a proper case for confinement. They are not protected in any way against the annoyance of suit for damages brought by unrecovered lunatics before ignorant and prejudiced juries. Many physicians in general practice, moreover, feel themselves without sufficient training and experience in the diagnosis of insanity to be able or willing, in the very earliest stages of the disease, to take the responsibility of diagnosis and certification. To obviate this, all medical schools should make instruction upon insanity a by no means unimportant part of their medical course, and attendance necessary to graduation. I speak with all due respect for the knowledge and diagnostic acumen of my medical brethren in general practice when I say that of one single form of insanity, one that is singularly regular and characteristic in its manifestations, I have not known a single case out of over two hundred and fifty to be recognized before commitment. I refer to paresis. The mental disturbance was appreciated, as evinced by the certificate, but the peculiar form was wholly unrecognized.

The fault was not with the physicians. They had never had occasion or opportunity to receive instruction in these cases.

Another element which is active in preventing early asylum-treatment is the indisposition of poor-relief officers, overseers, and others to grant orders of admission until some overt act or threatened violence makes detention necessary, and too often in such cases even the wish to stand well with an unthinking constituency by a show of economy results in the incarceration of acute cases in almshouses. The law should make such action a misdemeanor.

In the State of New York, except in the

counties of Kings, New York, and Monroe, there is no place except a State asylum where a case of acute insanity requiring public relief can be legally detained.

As far as proper care is concerned, the pauper seems in the State of Pennsylvania to have the advantage. Persons who are able to pay the low rates of three and four dollars weekly are compelled to depend upon the charity of the incorporated hospital, as in their present crowded condition the State asylums cannot receive them.

The provision of the New York lunacy law in regard to the indigent insane not paupers might, it seems to me, be well imitated.

I am informed that the necessary exclusion of these cases has resulted, in part, in the at present low percentage of recoveries in the hospitals of this State.

It seems a crying wrong that a small taxpayer who has assisted for years in supporting the hospitals of the State must, when becoming insane, be refused the benefit of treatment because his place is occupied by a pauper, for whose recovery, in four cases out of five of those now under care, there is no expectation.

In the thirty-eighth annual report of the Commissioners in Lunacy for Scotland reference is made to exactly this condition of things, which was found to exist in one of the royal asylums (institutions corresponding somewhat with our State asylums). The Commissioners say of this asylum that at present the public are suffering by the presence in the asylum of pauper patients, who might, as they point out, be as well provided for elsewhere, being quiet chronic cases. As a consequence, twenty-seven private patients at low rates were refused. At the time of the visit (of the Commissioners) two letters applying for admission were seen, one of which from a mechanic points out that, so far as he can see, but two classes were provided for, the very rich and the very poor. The Commissioners very emphatically animadvert upon this condition of affairs.

The state owes a duty to all classes of her citizens to so provide that they may feel assured that in the event of becoming insane they shall be properly cared for.

Not by any means the least of the duties of the state is to provide, by Commissioners or otherwise, such a system of inspection and visitation of all places where the insane are confined that their friends shall be afforded a means of satisfying themselves of the proper conduct of such places.

Such a Commission is or should be an educator of the people,—a bulwark on the one hand against unjust charges concerning asylum and hospital management, and on the other against the improper care and custody of the insane.

Imbued with a right spirit, they are strong factors in the establishment and maintenance of a proper system of hospital care, as witness the course of the English and Scotch Commissioners, who have been a real help to asylum physicians instead of captious critics, and who have by their course aided very materially in promoting the prompt and proper care of the insane. So strong has become the opinion of the English Commissioners in favor of early treatment that when it was recently proposed to throw, by an amendment of the law, increased difficulties in the way of early commitments, the chairman of the Commission resigned rather than by retaining office seem to sanction such a change.

The Lunacy Committee of this State is, I believe, endeavoring to emulate the example of its English prototype. Under our more recent laws, which in some respects are not harmonious in all their relations, and with few American precedents to guide it, and an incomplete asylum system to work with, the Committee may not in all things accomplish at once what might be desired. Its hands should be sustained, however, and time and wider experience may be trusted to work much good.

REPORT ON RECENT PROGRESS IN OBSTETRICS AND GYNÆCOLOGY.

BY W. H. H. GITHENS, M.D.

PILOCARPINE IN PUERPERAL CONVULSIONS.

IN the July number (American reprint) of the *London Lancet*, Dr. James Murphy reports six cases of the successful use of pilocarpine in puerperal convulsions. He injects one-third of a grain hypodermically. His results were prompt and satisfactory; all his cases recovered. He has found it necessary in some cases to repeat the dose in six hours. In a previous number of the *Lancet*, Dr. Harrocks had reported the successful use of this remedy; and in the *American Journal of Obstetrics* for December, 1883, two cases are care-

fully reported by Dr. Murphy. This treatment is by no means new, having been tried by Bidder as far back as 1872.

TECHNIQUE OF THE SANGER OPERATION.

In the *Centralbl. f. Gynäcologie*, No. 32, 1886, Leopold formulates the following rules as the result of his experience with the Sänger operation:

1. The patient should be examined and disturbed as little as possible before the operation. The internal and external genitals should be washed with sublimate solution (one to two thousand), or a three-per-cent. carbolic-acid solution.

2. The operation should be performed as early as possible, at the farthest by the end of the first stage of parturition.

3. The operator must be assured of efficient assistants, who have been previously instructed in all the details of the operation.

4. The uterine section should reach only to the movable peritoneum, and ultimately be prolonged to the fundus.

5. After the removal of the child and before the separation of the placenta, the uterus is removed from the abdominal cavity, and

6. Hemorrhage is checked by compression with an elastic ligature and finally by manual compression.

7. The uterine wound is sutured with silver wire, the decidua being avoided. Coaptation of the muscular surfaces is best effected when, before the sutures are drawn up, the uterus is compressed laterally. The superficial sutures are best made with thin silk.

8. The elastic ligature is now removed, and the further procedures follow the rules of a laparotomy.—*Medical News.*

PROLONGED DILATATION OF THE UTERUS.

Vulliet (*Arch. de Tocologie*, October 30, 1886) has submitted to the Paris Académie de Médecine a paper on a new method of dilating the uterine canal for diagnostic and therapeutic purposes, which gives an opportunity to inspect the diseased endometrium and to apply medicaments directly to it. The dilatation may be kept up indefinitely without injury to the patient.

Modus Operandi.—The patient is placed in the knee-chest position, the os exposed by the aid of a Sims speculum, and bits of cotton saturated in an ethereal solution of iodoform (one to ten) are passed into the uterine cavity. These tampons vary in size from that of a pea to that of an almond, and have each a piece of thread attached; they are introduced by means of a sound until the cavity and canal are filled up to the os externum. After forty-eight hours they are withdrawn and a fresh lot introduced, and this operation is repeated eight or ten times until the cavity is so dilated that it is visible throughout.—*New York Medical Journal*, December 25, 1886.

OVARIAN ABSCESS AND PYOSALPINX.

Dr. Imlach: *Liverpool Medico-Chirurgical Journal*, 1886. The author considers that it is a mistake to call the ovaries and tubes *uterine appendages*. It would harmonize better with modern physiology and pathology to call the uterus an ovarian appendage. The tubes may become infected from the ovary or from the uterus. Menstrual discharge is not found in healthy tubes, ovarian hemorrhage being always pathological and leading probably to tubal disease. In *hæmatosalpinx* there is always distention; the coats of the tube may be thin and transparent, or the muscular coat may become greatly hypertrophied. The distention results from matting together of the fimbriæ and closure of the uterine opening of the tube. The large proportion of tubes distended by blood results in pelvic hæmatocele. If the ostium uterinum be open, cure may be effected without operation.

Hydrosalpinx.—The tubes are closed at both ends, and contain from one to five ounces of thin sero-albuminous fluid which rarely coagulates on standing. The mucous and muscular coats of the tube become nearly obliterated. The pain from serous distention is great, and Imlach has operated for this condition twelve times without a death.

Pyosalpinx.—The *acute* form Imlach has never met with at operation, although he has seen it post mortem. The *chronic* form has many varieties. If the tubes are not occluded they feel like thick cords, and contain a few drops of pus or muco-pus. Sometimes the tubes feel as if two or three beans were contained within them; these are thickened and dilated chambers containing thick pus or dark-brown blood. The infundibulum may be distended with pus, the uterine half being simply somewhat thickened, or the entire tube may be filled with putrid pus.

Ovaries.—Both tubes may be distended with pus or other fluid, and yet the ovaries show little or no sign of disease. Inflammation of the ovary consists in the pathology of its cysts. Oöphoritis may exist without disease of the tubes. Both hypertrophy and atrophy of the ovaries are found. When the physiological cysts of the ovary contain a drachm or more of dark fluid blood, or a more or less disintegrated corpus luteum floating in blood, the ovary may be termed *hæmatocystic.* This condition is found in hæmatocele and with pyosalpinx. In a *hydrocystic* ovary the Graafian follicles have become large watery cysts. This condition results from prolonged lactation and poor food, and may be cured by rest and good feeding. *Pyocystic* ovaries contain from a few drops to an ounce or so of pus or a mixture of blood and pus. The tubes may be simply congested, but usually they are thickened and purulent.

Sooner or later, general or local peritonitis is set up by overflow of the tubal contents into the peritoneal cavity.

THE ETIOLOGY OF SALPINGITIS.

Martin (*Centralbl. für Gynäkologie*, No. 45, 1886) reports the results of his observations in two hundred and eighty-seven cases of diseased Fallopian tubes. In over one-half of the number the inflammation began in and extended directly from the uterus; twenty-five per cent. were of puerperal origin; five-sixths were due to gonorrhœal infection, and one-sixth to tuberculosis. The left tube alone was affected in one hundred and thirty-eight cases, the right alone in fifty-eight, and both in ninety-one. The entrance of micro-organisms of puerperal sepsis, gonorrhœa, tuberculosis, or actinomycosis is followed by suppuration. The prognosis is not so gloomy as it has been represented: the inflammation may subside and a perfect cure follow, so that the patient subsequently becomes pregnant. If palliative treatment fails and the symptoms are very severe, an operation is justifiable.—*New York Medical Journal.*

FŒTAL INDICATIONS FOR THE USE OF THE FORCEPS.

S. Marx, in the *American Journal of Obstetrics* (November, 1886), details two cases of rupture of the uterus in the puerperal state. In the course of the paper he remarks,—

"If the forceps were more applied for the child's safety, a good deed would be done. The three symptoms which indicate danger to the fœtus are:

"I. Slowing of the heart's action between and during the pains, say a fœtal heart of eighty, or a gradual sinking of the tones during each pain, or especially where the heart-tones have been good and gradually cease. If the sounds sink to eighty or seventy in a pain, but rise to one hundred and twenty or one hundred and forty in the intervals, there is no danger to be apprehended. But if the heart-tones should even be one hundred for a considerable time, the case demands the entire attention of the physician, and under these conditions, especially if the woman has previously borne dead children, it would be well to terminate the labor, providing the condition of the parts allowed it.

"II. Escape of meconium is a symptom of great importance. It shows that there is a paralysis of the voluntary muscles, and especially the sphincter ani, from some cause, and most frequently this is carbonic-acid gas poisoning. Should this symptom be present with a fœtal heart of eighty, the most urgent symptoms are presented to the accoucheur for a speedy delivery. I have yet to see the case in which the child was not to some extent asphyxiated where these two symptoms were present.

"III. The umbilical souffle is a symptom, when present, not to be forgotten. It reminds one of a soft, blowing murmur synchronous with the fœtal heart. It is caused by the cord being subjected to pressure, either from being around the child's neck or around its body or pressed against the uterine walls: therefore it should be found in every case where it is suspected that the cord is being pressed upon."

PROPOSED MODIFICATION OF PORRO'S OPERATION.

Before the Gynæcological Society of Chicago, August 20, 1886, Dr. John Bartlett read a paper proposing an important modification of the Cæsarean section: "The operation proceeds as in Cæsarean section till the child is removed, the actual cautery being used in opening into the womb. Then, instead of dragging the womb out of the abdomen through the abdominal incision, it is dragged out of that cavity through the vagina. The operator passes a Wells's clamp, somewhat

modified in its prehensile surfaces and properly curved in coincidence with the parturient canal, to the fundus of the uterus, and there secures a firm grasp into the uterine tissues. By traction upon these forceps, and pressure and suitable manipulation from above, the fundus of the uterus is depressed into the body of the organ, and dragged through the cervix into the vagina to produce complete inversion. The clamping-wire is immediately adjusted, and excision of the uterus and appendages effected at a suitable distance from the vaginal juncture. . . . The advantages are:

"1. That the abdominal cavity is thoroughly closed, the abdominal incision not being embarrassed by the presence of the large pedicle. By the process of inversion the pedicle is placed outside of the abdominal cavity, while what may be termed the uterine inlet made into the peritoneal sac is closed by the clamping-wire opposing serous surface to serous surface.

"2. The relation of the parts is more natural and less strained than in the status in which Porro's method leaves them.

"3. In the event of drainage becoming necessary, the effecting of an opening for a tube can be accomplished more easily and safely than in Porro's plan."—*American Journal of Obstetrics.*

ADMINISTRATION OF DRUGS DURING LACTATION.

H. Fehling: *Archiv f. Gyn.*, xxvii., iii. A series of interesting experiments with various drugs administered during lactation are herein described, and the effect on the infant noted. The results obtained were as follows:

Salicylate of Soda.—From one to three grammes of this drug were given to the mother, and the infant put to the breast in from one to three hours afterwards. The urine of the mother and that of the child were then examined in a series of seven cases, with the result that the drug appeared in the urine of the child if nursed one hour after the administration of the drug, and continued present up to twenty-three hours.

Potassium Iodide.—One to two grammes administered to the mother: iodine uniformly detected in the urine and milk; it appeared in the milk at the end of twenty-four hours, but did not appear in the urine of the infant until seventy-two hours had passed.

Potassium ferrocyanide did not appear in the urine of the child, but did in that of the mother.

Iodoform was used over the perineum and vagina post partum: the characteristic reaction could be detected in the milk and urine of the mother, but did not affect the health of the child.

Mercurials.—Experiments on animals gave varying and uncertain results. The long-continued administration of mercurials to the mother may affect the infant.

Hydrochloric, acetic, and *citric acid* had no effect on the milk or the child.

Morphine given hypodermically had no determined effect on the child; the same may be said respecting chloral.

Atropine.—From 0.001 to 0.005 gramme given hypodermically to the mother caused in the majority of the cases wide dilatation of the infant's pupils, but this was the only effect. It is safe to give belladonna in the usual doses to the nursing mother.—*American Journal of Obstetrics.*

A CASE OF COMMINUTED AND DEPRESSED FRACTURE OF THE FRONTAL BONE, WITH RECOVERY AFTER TREPHINING.

BY T. H. ANDREWS, M.D.

GEORGE S., æt. 24, was kicked in the centre of his forehead by a mule, while working on a farm, on the 3d of December, 1886, producing a compound comminuted fracture of the frontal bone. The line of transverse laceration made by the animal's iron shoe was about two inches long, midway between the line of the eyebrows and the border of the scalp.

The attending physician, Dr. J. A. Crewitt, of Newtown, Bucks County, on his arrival found the patient in a semi-unconscious state, though for the first thirty minutes following the accident the man was said to have been profoundly unconscious. The doctor made several unsuccessful attempts to elevate the depressed fragments of bone, but, not being fully prepared for the operation, and desiring assistance, he telegraphed to me and requested me to come at once. Sedatives and cold dressings were employed during the enforced interval while awaiting surgical treatment. Owing to the telegram not being promptly delivered, I was unable to reach the patient before eight o'clock A.M., De-

cember 4. I found the patient perfectly conscious: his pulse and temperature were normal. Upon examination I found the

wound as described above, the frontal bone being greatly comminuted. The largest fragment (the inferior portion), was overridden by the superior upper fragments, and was found to be firmly pressed upon the dura mater. All attempts at elevation of this fragment proving simply futile, the trephine was at once applied to the sound bone above the fractured surfaces, and a disk of about five-eighths of an inch was removed. This enabled us to introduce the elevator and raise the larger depressed fragment, thus permitting the other smaller portions to be successively removed. (The above illustration represents the actual size of the fragments removed, including the disk taken out by the trephine.) Great care was taken to leave untouched and as nearly perfect as possible the overlying periosteum. Numerous small clots were found in the wound and extracted. After surgical cleanliness had been made perfect, the wound was drawn together and sutured. Cold-water dressings were made, and the progress towards health was rapid and unvarying, with negative symptoms altogether, temperature and pulse being unaffected. The wound healed in five weeks.

To-day, eight weeks after the operation, the patient reported having been at his usual work, farming, for the last three weeks, and is in perfect ruddy robust health, as before the operation. He is not conscious of having had subjective symptoms in any form.

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TRANSLATIONS.

Nocard and Roux on the Cultivation of Tubercle-Microbes.—At a recent meeting of the Paris Biological Society, MM. Nocard and Roux made the following communication concerning the cultivation of the microbe of tuberculosis. Since Koch's great discovery of the tubercle-microbe, all observers have been able to find its bacillus in tuberculous products. Thanks to Ehrlich's practical process, it may be said that no medical discovery has ever been so rapidly and so universally accepted. But, although it be easy to find the tubercle-bacillus, its cultivation offers some difficulty. The method of cultivation on gelatinized serum recommended by Koch is still generally used, and all those who have tried this method know how difficult it is to start the cultivation of the tubercle-microbe, and how long it requires to obtain a series of successive cultivations. Last year an effort was made to improve Koch's medium by adding peptone, sugar, and salt to the serum. Since then other researches have had better results, and it has been found that glycerin singularly favors the development of tubercle-bacilli, the serum being no longer necessary. Mediums that were looked upon by Koch as unfavorable to the culture of these bacilli, such as ordinary broth or broth solidified with gelatin, give an abundant vegetation when glycerin is added. The possibility of cultivation on gelatin to which a small quantity of glycerin, six to ten per cent., is added, constitutes an improvement on account of the transparency of the medium and the facility of its preparation. But this medium has other advantages: it enables the cultivation to be made in layers as easily as that of other microbes. Those submitted to the inspection of the Biological Society were cultivated in this way, and consisted of a considerable number of colonies, disposed in circular patches with well-defined contours. The most recent were transparent, the others becoming slightly yellow, and then brown, according to age, and having peculiarities permitting them to be distinguished in the midst of colonies of other microbes. There is reason to hope, says the author, that a similar result may be obtained by spreading tuberculous pus or sputum on the medium. When the microbe

is sown by pricking the gelatin thus prepared, the cultivation, which is scarcely appreciable along the course of the needle, becomes vigorous in contact with the air, under the form of a yellowish-white patch, somewhat salient, dry, with slightly-dentated contours. The cultivations obtained in the above manner were controlled by inoculation, and the animals became tuberculous quite as easily and as rapidly as by the cultivations obtained on pure serum, or on serum with peptone. On terminating, the author laid before the assembly a series of cultivations, all started on the same day and with the same seed. The cultivation obtained on pure serum was lean, dry, and scaly in those parts where the layer of serum was the thinnest. Serum with glycerin gave incomparably better results, and this was the case with gelatin to which glycerin had been added. An equally satisfactory result was obtained through the medium of ordinary broth with a little glycerin. It is not to be contested, said the author, that the cultivation in a liquid medium offers much greater facility for observing the conditions of the development of micro-organisms, and especially those which influence sporulation.

The Chemical Application of the Galvano-Puncture in Gynæcology.—Dr. Apostoli concluded a paper before the Société de Médecine de Paris (October 9) as follows:

The diseases of the uterus and its adnexa which are amenable to treatment by galvano-puncture are certain uterine fibromas, certain forms of chronic metritis, certain intra-uterine polypi, unilocular cysts of the ovary at their beginning, chronic abscess of the broad ligament, posterior perimetritis (subacute and chronic), peri-uterine blood cysts (hæmatocele), and extra-uterine pregnancy.

The general precautions to be used in the practice of vaginal galvano-puncture are the following:

1. As much as possible to avoid penetration of the peritoneum.

2. The possibility of an eventual foyer of suppuration is to be borne in mind, and precautions taken to secure elimination and resort to topical antiseptic treatment.

3. Short punctures (of one to two centimetres) are always preferable to deeper ones.

4. We should always, as a preliminary measure, sound and explore the bladder in every direction, in order to avoid wounding it or involving it in a deep eschar.

5. In all cases of lateral or posterior puncture we should explore by digital examination, in order to detect arterial pulsation and avoid perforation of the great vessels.

6. Rest in bed, from one to several days, should be required in all patients who have been subjected to galvano-puncture.

7. Before and after each puncture an antiseptic vaginal injection should be used, and a tampon of iodoform gauze placed in contact with the punctures, and allowed to remain until cicatrization is complete.

8. Sexual relations are to be prohibited during the treatment.

Virulence of Tuberculosis and Scrofula.—At a recent meeting of the Académie des Sciences, M. Arloing presented some remarks on the virulence of tuberculosis and of scrofula. M. Arloing had already demonstrated that pulmonary tuberculosis affects guinea-pigs and rabbits, while true glandular scrofula produces no lesions whatever on the latter animals. He now asks, Might not the virulence of scrofula be augmented to such a degree as to permit the infection of both these animals?

Experiments show that the passage of scrofula through two generations of guinea-pigs does not increase its virulence in respect to rabbits, and is not perceptibly modified in its action upon the former animals. The result is different with real tuberculosis in its attenuated forms, such as is met with in local tuberculosis: the organism of guinea-pigs augments the virulence of the enfeebled tuberculosis virus, while it seems to have no influence whatever on the virus of glandular scrofula. This fact justifies the difference experimentally established between the two morbid states. If it has not yet been proved that they are caused by two distinct kinds of virus, and if it must be admitted that they are derived from one sole agent, then the bacilli tuberculosis have different degrees of activity; at least it must be acknowledged that in true glandular scrofula they are farther from their primitive virulence than in local tuberculosis.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 5, 1887.

EDITORIAL.

RIGHT-HANDEDNESS AND AMBIDEXTERITY.

A VERY interesting communication read last November before the College of Physicians of Philadelphia seems to have reopened the question in medical journalism of the cause of right-handedness among the civilized races of man, which is as old as Aristotle. The paper referred to was read by Dr. Oscar H. Allis, and was entitled "Man's Aptitude for Labor in the Erect Position: with an Inquiry into the Agencies that Predispose to a very Universal Preference for the Right Leg and Arm." In his review of the mechanical points involved, and of the anatomical peculiarities of man which enable him to labor in the erect position, some important statements are made. The question of equilibrium is first considered. It is claimed that the tilting downward of the pelvis and the lumbar spinal curve are due to the position of the points of femoral support, and appear as soon as the child sustains the weight of the body in the erect posture upon its two limbs. Man is the only animal having two limbs exclusively for prehensile acts and two for support. The anatomical conditions are favorable to certain rotatory movements of the body above the hips; and, owing to the double curve of the spinal column and the peculiar articular relations of the vertebræ, it is seen that such rotation is not only possible but absolutely necessary for the movements of the body during manual labor. This twist, which is the chief motion of the dorsal region, gradually diminishes, until it is lost in the sacrum, or, if excessive, extends to the lower extremities, which are specially fitted to meet it. In this connection the suggestion is made that man, although he has only two legs, is in reality four-footed, since the ball and heel act alternately in progression and can accommodate themselves to different levels. A glance at the soles of the human feet shows how peculiarly they are adapted, when taken together, to grasping the earth and resisting any rotatory strain that may come from above. The architecture of the shoulder-joint also shows a marked adaptation in man to rotatory motion, as around a central axis.

In making inquiry into the agencies that predispose to a very universal preference for the use of the right leg and arm, Dr. Allis justly observes that man is the only animal that can possibly attain to *dexterity*, "because he is the only animal that has two hands exclusively for skilled work,—and skilled work demands *two* hands: one hand is not enough. One hand must hold the apple while the other pares it; one hand holds the chisel while the other uses the mallet. Each to its part, but both together for a definite purpose. The skill of the left, as assistant, is equal in every degree to the *dexterity* of the right." For this reason he feels that those are in error who believe in the desirability or possibility of ambidexterity. Since it is very early in life that the preference is shown for the right side, the efficient cause must be sought for in the infant. The explanation Dr. Allis finds in the position and disproportionate weight of the liver early in life, which lies mainly over the right leg, thus making it firm and stable, "and the use of the right arm, situated directly over the right leg, will tend less to the disturbance of the centre of gravity than would the use of the left arm."

We have dwelt upon Dr. Allis's views on account of the intrinsic importance of his contribution, and because he has not sufficiently insisted upon his strongest argument for the general preference for

the right hand. All left-handed people do not have transposition of the abdominal viscera, nor has it been demonstrated that such transposition is always accompanied by left-handedness. The mechanical explanation is therefore insufficient, though suggestive, and it should have due weight. On the other hand, the rotatory movements of the body during the performance of some kinds of manual labor, as in swinging the scythe or pushing the plane, are probably characteristic of the species, just as the stems of climbing plants tend to twist or revolve in a certain direction (and among which occasional exceptions are also found). Many movements, however, do not involve rotation of the trunk, and in these we believe it to be the fact that man is really ambidextrous; if the right hand be commonly employed, it is from choice, education, or fashion. It is true that in writing we usually hold the pen in the right hand, as we were taught at school, but when this member becomes disabled by accident or disease—writer's cramp, for instance — men frequently learn to write with the left hand. In playing musical instruments—the violin, flute, drum, or piano—ambidexterity is required, and may be attained by practice. We know of two instances in each of which the individuals can write equally well with both hands; and some ladies in sewing can use the needle indifferently in the right or the left hand. In the use of the type-writer by an expert there is no difference in dexterity observed between the two hands.

In considering the question of right-handedness, it is evident that a distinction might be made between movements which require rotation of the trunk and those that are confined to the arm and forearm: in the former the greater stability of the right side, buttressed by the liver, leads to the employment of the right arm for feats of strength or manual effort. On the contrary, when no support is needed, dexterity depends upon muscular agility and skill, and belongs to neither side exclusively. It is noteworthy that it is to actions of this kind that attention is usually directed in studying the phenomena of right-handedness, although, as we have shown, they may be performed equally well by the left hand by training and practice.

A PROSPECTIVE MONUMENT TO DR. BENJAMIN RUSH.

THE American Medical Association has appointed a committee, with resident members in most of the States and Territories of the Union, which is now actively engaged in collecting funds for the purpose of erecting at Washington a statue of Dr. Benjamin Rush, of Pennsylvania, the philosopher, physician, and patriot. Among the many artistic adornments of the national capital, where are found statues of Presidents, law-makers, generals and admirals, painters and sculptors, a monument to the American Sydenham would find appropriate place as the most distinguished representative of the medical profession which this country has yet produced.

The recent tributes of Benjamin Ward Richardson to Rush as philanthropist, orator, teacher, and man of letters, and of Tuke, who especially dwells upon his services to psychiatry, the address of Dr. Charles K. Mills before the Medico-Legal Society of New York on "Benjamin Rush and Psychiatry," and the eulogistic biographical sketch contained in the address of Dr. Weir Mitchell at the recent celebration of the centennial anniversary of the College of Physicians of Philadelphia, certainly indicate that the profession is at length beginning to take more interest in the career of this truly great American physician. In the words of Dr. Mills, "a Rush renaissance seems imminent."

What more fitting method could be devised of expressing this renewal of interest than by carrying out the purpose for which the committee was appointed? It

is proposed to raise the amount needed by dollar-subscriptions from the physicians and students of medicine in the United States. Contributions may be sent to Dr. John H. Musser, 3705 Powelton Avenue, Philadelphia, the resident member of the committee for this State. The reasons are obvious why the physicians of Pennsylvania should contribute handsomely to this fund.

INSANE AND CRIMINAL BRAINS.

ON another page we place before our readers the carefully-prepared report of the examination of a confessed murderer's brain, with photographic illustrations showing anatomical aberrations and defects of development which distinctly stamp the brain as inferior to the average type, and possibly place it among those which, as Benedikt has shown, are common among criminals. It would be evidently unfair to contrast the brains of professional criminals and outlaws belonging to the lowest social ranks with those of the highest type of civilization, and especially to assume that the latter is the standard to which others must conform. But, even when compared with the usual appearances of non-criminal brains taken from the same classes of society, it has been, if not fully demonstrated, at least rendered probable that certain classical changes of structure are commonly accompanied either by recognized insanity or by absence of the moral restraint upon conduct which the community requires of its members. Degradation of brain-structure is apt to be accompanied by degradation of life.

To the optimist, should this teaching find sufficient support, it will afford much encouragement: it leads him to hope that as man improves physically he will continue to improve morally, since much of the wickedness and crime recorded in the current history of the day may thus be explained by the accidental persistence of lower types of human organization, which are doomed to extinction. We are, nevertheless, far from subscribing to the opinion expressed during the discussion of the Guiteau trial, that "some insane people should be hung." On the contrary, we believe firmly that the logical and practical results of the study of this question must lead to the final abolition of the death-penalty in every civilized Christian community.

A NEW JOURNAL.

THE tendency to specialism in scientific work in Germany, and especially in those departments of such work which relate to medicine, is illustrated by the *Centralblatt für Bacteriologie und Parasitenkunde*, the advent of which we recently announced in these columns. Edited by Uhlworm, of Cassel, with the assistance of Leuckart, of Leipsic, and Loeffler, of Berlin, it is sure to represent in the fullest and fairest way the progress of knowledge in the field to which it is devoted. The initial number contains an original article, by Professor Leuckart, upon the Bothriocephalus, which is to be completed in the next issue, and a series of admirable, signed reviews of recent work in bacteriology. A department is devoted to new methods of investigation, new instruments, etc. Finally, a classified index to the recent literature of parasites and bacteriology concludes the number.

The editors are to be congratulated upon their success in the selection of their collaborateurs and the excellence of this number. It will be necessary not only to the special workers in this branch of biological research, but also to alert workers in every field of medicine who can read the German tongue. This pioneer comes from the other side of the Atlantic just at the time when the most widely circulated medical journal of this country has published a voluminous article "Against the Germ-Theory of Disease"! In the words of Hamlet,—

"Look here, upon this picture, and on this!"

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

HYDROPHOBIA.—The discussion at the Académie de Médecine on hydrophobia was closed by Professor Peter, who gave further details of cases to prove his conviction that the Pasteur plan of medication, if such it can be called, is dangerous. In our last letter we spoke of the matter, and now, after hearing Dr. Peter's remarks and Professor Vulpian's eloquent reply to them, we must admit that it is still an open question. M. Peter clearly does not prove his case,—that is to say, that the deaths which occurred were due to the antihydrophobic inoculations; it is only proved that the individuals died of hydrophobia, and that the inoculations did not save them. Could he have shown conclusively that the dog or dogs in question which bit the patients were not mad, but were still alive and in good health, then it would have been certain that the patients died of a laboratory hydrophobia. The other side, headed by Professors Vulpian, Brouardel, Grancher, and others (in the absence of M. Pasteur, who is at Bordighera, in the South, for his health), have supported the great chemist to the best of their ability; but there is a growing feeling of distrust in regard to the method which only time and ample experience can allay. In the mean time the *Journal Officiel* publishes the eightieth list of subscriptions for the foundation of the "Pasteur Institute," and the total sum raised is now much over three hundred thousand dollars. They have also been given a part of the ground and old buildings hitherto used by the Faculty of Medicine for laboratories, but which are now being vacated by the Faculty, who are taking possession of the new buildings on the Boulevard St.-Germain. So the sinews of war and large laboratory-space will not be wanting to give M. Pasteur's system a fair trial. The result time only can tell.

Alimentary Régime.—This important study is the object of a new book by Professor Germain Sée, in which he details his ideas of the hygienic treatment of disease. Passing in review the usual forms of artificial alimentation, M. Sée condemns rectal alimentation, and, in fact, foods prepared with beef-teas and peptones and injected into the rectum have been found to be very little absorbed, so that this form of alimentation is certainly not only illusive, but, as rectal irritation follows so quickly upon it, it is almost useless. In regard to the buttermilk- and whey-cures so much used in Switzerland and other places, Sée, in speaking of their use in obesity, says that this cure is only a form of disguised inanition. Dyspepsia he considers is simply a defective chemical operation, and the serious study of this malady must be based on the examination of the chemical products of digestion: so this leads to the necessity for the evacuation of the stomach with sounds and the careful examination of the gastric juices. Of course this throws out, as not true dyspepsia, all the atonic or spasmodic disorders. For the true or chemical dyspepsia M. Sée recommends Vichy water, and then advises the use of tea as a drink in place of wine. In fact, all through this work Dr. Sée strongly recommends the use of tea as a drink. We fancy that he recommends it because he has seen much good come from substituting tea for wine by his patients; but it must be remembered that most French people never touch tea at all, and this may be one reason why so much benefit has been derived from its use. In any case, Professor Sée is a most enthusiastic advocate of its use; but we hope that this will not induce American or English physicians to order it to some of their dyspeptic patients who already drink more tea than is good for them. *Autre pays autres mœurs.* In phthisis, he says, "Tuberculosis commences often, and finishes almost always, by gastro-dyspepsia;" and he advises the following régime:

1st. Vichy water a half-hour before meals, to encourage the secretion of gastric juice.

2d. Also, before eating, a powder to absorb the gases created. (This powder consists of chalk and calcined magnesia.)

3d. The diet need not be uniform or systematic at all, and cold meats, fish, hot spiced dishes, and salt meat, even sausage, etc., can replace raw meat with advantage.

4th. Warm drinks, and, best of all, abundant stimulating infusions of tea.

5th. Finally, stomach-washing, if needed.

In gout, the alimentary régime is well known and has been well studied. Here again tea is recommended in abundance, because, says M. Sée, "theine is favorable to the organic changes, and warm aromatic liquids produce a sort of washing out of the urinary tubules which are the receptacle of the uric-acid deposits."

In diabetes he advises meats of all kinds, fats of varied sorts, and one hundred and fifty grammes daily of bread or potatoes, and the roots of green vegetables; and, as drinks, tea again, or coffee, without sugar, and Vichy water after meals.

As to obesity, the régime here should be restricted to what is the strict physiological necessity; and, as many would like to know just how much is the lowest, or rather the normal, amount of food one should take, we give Dr. Sée's figures: one hundred and twenty to one hundred and thirty grammes of nitrogenized principles, which may come from two hundred and fifty to three hundred grammes of lean meat (*i.e.*, about a half-pound of meat). Then eighty to one hundred and twenty grammes of neutral fats and two hundred and fifty of carbohydrates, which

can be furnished by four hundred to five hundred grammes of starchy food or of sugar; more than these quantities will increase obesity, which also is to be decreased by exercise. Drinks must not be suppressed, as some authors demand. On the contrary, in all cases they have to be increased in order to increase stomach-digestion and general nutrition. Here once more hot infusions of tea are recommended by our author, but alcoholic liquids and mineral waters are forbidden.

Heart-Diseases.—Whenever a cardiac patient presents the physical signs resulting from an insufficiency of the heart-valves, he should forthwith be put under certain hygienic rules. One of the most important of these is rest, or a "minimum of musculation," and in consequence of this an alimentary régime corresponding to the smaller quantity of heat lost and the slighter need of combustion. The food taken should not furnish more than the number of calories needed. In short, the heart's work should be limited to the smallest quantity possible. The moment there is œdema the milk-treatment is indispensable, as milk is the most powerful of all the diuretics.

Albuminuria.—The important point here is to watch the state of the skin and keep the pores open, by which means uræmic attacks may be warded off. Milk-diet, of course, is used, and he advises nourishment in small quantities at a time and often. Both the grape-cure and whey-cure are declared to be useless, or at least condemned on account of yielding very uncertain results. Clinical observation has recognized the good influence of oxygen-inhalations in albuminuria; the nutritive functions are increased, appetite is excited, the blood becomes richer in hæmoglobin, and the whole system is benefited. The induction is that these patients should seek for a mild climate with pure dry air, that is but little liable to variation of temperature; and the Mediterranean coast is especially recommended for this, as the Atlantic Ocean air is too stimulating, and mountain-climates have much too sudden variations.

Kéfir.—Professor Lépine, of the Faculty of Lyons, speaks of the therapeutic value of this substance in different affections of the stomach, for which he had lately given it to quite a number of patients. He makes no pretensions of its being a medicament, but calls it an aliment, for, like the koumyss, it is only fermented milk. Kéfir has the advantage of being more agreeable in its taste than koumyss. For hundreds of years, the Tartars who live in the Northern Caucasian mountains have prepared a drink, which they call kéfir, gypy, kapyr, etc., by adding to cow's milk a kind of mushroom that is found in those high regions near the snow-line. This *champignon* is found in the form of irregular, compact, elastic seeds, varying in size from five millimetres to five centimetres, whose surface is rough and wrinkled, something like the tops of cauliflower. In the dried state they are yellowish, break easily, and look a little like cartilage. They contain two bacilli, one of which is like the bayonet-shaped bacillus found in spontaneously-fermented milk; the other one has a little spore at each of its ends, and has been called *Dispora Caucasica* by Kern, of Moscow.

To prepare kéfir, the grains are first of all to be swollen up by putting them into warm water for five or six hours; then throw them into milk after carefully washing them, and this milk is to be renewed several times (two or three) a day. After a few days they will have become active and ready to use for making the kéfir drink, which is done as follows. Take a tablespoonful of the fermenting seeds to each pint of fresh milk, and keep the mixture at a temperature of 18° to 19° Centigrade, shaking it every hour. The next day the mixture will be found in a mass, when it should be filtered through muslin, to get rid of the grain and all the impurities that may be in it. It should then be bottled, and the bottles must not be filled quite full, as it will go on fermenting for some time in them; they should be well corked, and shaken from time to time. In twenty-four hours more it is ready for use, unless it is desired to have a kéfir richer in alcohol, when it should be left for two or three days longer. After four days the drink becomes too acid to use. Well prepared, it should be a thickish, cream-colored, frothy liquid. It is richer than koumyss in albuminoids, less alcoholic, and not so acid. As regards its use, the Russian doctors find its indication in all the anæmic states, where it is not a specific, but it is a good tonic aliment. In chronic anæmia a half-gramme of lactate of iron is added to each bottle. It has been found of great benefit in all the diseases of the digestive tube where there is atony. Dr. Lépine used it in ulcer of the stomach, and found his patients liked it better than milk, and that their gastric difficulties were relieved by it. Other patients, suffering with dilatation of the stomach and catarrh of the same organ, were improved. It was sometimes used alternately with good milk, when it was noticed that those who could not tolerate milk could use the kéfir with great advantage to them. It has been proposed lately to use some other ferment in place of the kéfir mushroom; but, so far as known, experiments have been without success. It may be asked, Why not be satisfied with pure milk? There are a number of answers to this which will occur to all who advise milk; then there is the motive that induced man to transform grape-juice into wine,—in a word, to introduce art into the preparation of his aliments.

Chondromata. — Cartilaginous tumors of

great size are not so common but what a short account of a recent clinic of Dr. Tillaux's at the Hôtel-Dieu may prove of interest, particularly as the patient presented a most curious example of this form of tumor. "The patient was about 40; his father at sixty-eight years of age is still alive, his mother had died suddenly at thirty-two, and of six brothers two had died young, one was suffering with phthisis, and the rest were quite well: so no antecedent history could be found for his affection. He had himself always been well, and never had had any other malady than these tumors. At the age of seven they began appearing on his fingers,—some thirty-three years ago. At first the index and middle fingers were enlarged only, and that was all there was to it; no pain was experienced, so but little trouble was taken about it. Little by little they increased in volume as the years went by, until when he was presented they measured seventeen to eighteen centimetres long and had a circumference of twenty-five to twenty-six centimetres; but their first character of indolence had never changed. He was only bothered with their enormous size, which prevented him from using his hands as he liked. The two index fingers were the only ones attacked, and the tumefaction was exactly limited by the metacarpo-phalangeal articulation, not extending a line beyond. A few years afterwards the second and third toes on the same side (left) were attacked, but they never got to the size of the fingers, being at present about the size of small eggs.

"Finally we come to the knee-tumor, which is the one for which he asks relief. It is of more recent date than those just referred to. Three years ago it did not exist, for he was treated for sciatica about that time on his complaining of pain and slight swelling about the head of the fibula. To-day you see a tumor there as large as a man's head, measuring sixty-five centimetres around its largest part: it is immobile, and has constantly been the seat of pain. Its consistence is soft in places, and the skin is drawn tight, but it is ulcerated in several places. The diagnosis as to the fingers and toes need not take long. They are typical chondromata: everything goes to prove that. They are round, hard, indolent, nodulated, and not the slightest pain in them, only differing from the usual forms of chondromata by their immense size.

"These tumors can develop themselves in soft parts, such as the parotid gland and the testicles, but they show themselves most frequently about the bones of the hand and foot. They are composed of cartilaginous tissue, though, curious to say, they *never* arise from the pre-existing articular cartilages. Not only is this so, but they also always respect the cartilages; and one can see in this patient that the articulating cartilages remain in good condition, notwithstanding the immediate neighborhood of these tumors. As to the knee-tumor, it cannot be quite the same kind, as it is soft, painful, and rapid in growth, and seems to come from the bone: yet it must be some relation to the others. Can it be that these tumors, which are always considered of the benign class, can take on a malignant character like carcinoma and sarcoma? According to what is called the neoplastic diathesis, it would seem so. This enchondroma is like what Virchow calls osteoid-chondroma, and according to him they often present a high degree of malignancy. The rule is adopted by most surgeons to amputate all the bone on which such tumors grow."

Dr. Tillaux amputated the left leg and the two fingers at the same time; the last weighed over three and a half pounds. On microscopic examination by Professor Cornil, they were found to be pure chondromata, and the knee-tumor was a chondro-myxoma, with predominance of the myxoma tissue.

Spasmodic Vomiting, Catarrh of the Uterus, Anæmia.—M. Victor Audhoui, who is Médecin de l'Hôpital de la Pitié (and one of the principal physicians at Vichy during the season), recently commented clinically on the above complex state which is so common in women in all countries. The doctor says, "The pathological theory is easy enough to formulate in this state, whether one considers the above three elements as constituting a disease or as depending as symptoms upon one single affection,—for instance, a simple general weakness,—or upon some lesion of the kidneys that has brought about autogenic poisoning which we call uræmia, etc., or else this state has supervened upon some one of the great number of habitual indigestions represented by dyspepsia. Whether you attach it to any of these states or consider it as an initial disorder, it can be best treated in the following manner:

"After having rectified as well as you can the régime of their lives, and having tried to re-establish the relations that ought to exist between the great functions by means that are appropriate to each individual case (the characters of which I cannot give in this rapid view), you must, above all, sustain and force absorption by the digestion of food. But ordinary aliments, even of the best, and that most desired by these patients, will not be tolerated. So you must give, as the only nourishment to be taken, pure milk with one-third of lime-water in it; and in order to prevent the constipation which is so constant with this medical aliment, you must have them take an injection of warm water every day on rising. This can be rendered laxative if needed. Besides this we may prescribe the following remedies:

"1. The patient is to take at night, on going to bed, first one and afterwards two of the following pills:

℞ Extract. nucis vomicæ, 1 Grm.;
Extract. belladonnæ alc.,
Extract. opii, āā 0.20 Grm. M.
F.—Divide into twenty pills.

"2. Twice a day (in the morning about eleven o'clock, and in the evening about seven) she should take, in a little water, thirty to forty drops of the tinctura ferri et potassii tartras, according to the last French Codex."

(It may be stated here that this preparation of iron is the one used by French physicians, Professor Germain Sée, and others, in anæmia and chlorosis, as it does not constipate.)

"3. The patient should give herself an injection (vaginal) morning and evening, as follows:

℞ Matricariæ, 20 Grm.;
Aquæ bullientis, 1000 Grm. M.

"The matricaria flowers are something like chamomile flowers, and they are to be allowed to infuse in the boiling water for an hour, and then strained and a few drops of cologne-water added to it on using it: it should be still warm when used.

"4. Lastly, it is useful to order a bath once a week, in which some aromatic alkaline salt should be dissolved,—like this, for instance:

Bicarbonate of soda, 250 Grm.;
Oils of lavender and mint, āā 1 Grm. M.

"I recommend practitioners not to confound this common state with dilation of the stomach. The trouble is that they undertake on very slight provocation to use washing out of the stomach, and strangely abuse it. It is extremely rare that this is needed. It is really only indicated when the stomach-contents are purulent; and I can assure you, in an extended practice in Paris and Vichy with gastric diseases, that this condition is extremely uncommon, so much so that in several hundreds of such cases I have used a stomach-sound in only three cases. In fact, I consider that style of therapeutics not only ridiculous when carried to extremes, but positively dangerous." THOMAS LINN, M.D.

PARIS, February 1, 1887.

PROCEEDINGS OF SOCIETIES.

JOINT MEETING OF THE PHILADELPHIA NEUROLOGICAL SOCIETY AND PHILADELPHIA MEDICAL JURISPRUDENCE SOCIETY.

JANUARY 24, 1887.

(Continued from page 362.)

JOHN A. CLARK, ESQ., then read a communication entitled

THE CARE OF PATIENTS OF DOUBTFUL MENTAL STATE, AND THE PRIVATE TREATMENT OF THE INSANE. (See *ante*, page 342.)

DISCUSSION.

G. W. BIDDLE, ESQ.: The papers that have been read this evening deal measurably with a subject of stupendous interest to all civilized communities; for it may be said, without fear of contradiction, that the disease of mental alienation is one which may involve any circle and any family; and it is therefore matter of satisfaction to the members of the two Societies which meet here to-night in joint convention that the subject which seems to be propounded for discussion touches us all so nearly. We must approach this subject with a good deal of calmness, and, as far as possible, with freedom from partisanship.

The tone of both of the papers that have been read is admirable. Two prominent topics seem to suggest themselves to us for consideration after hearing them: first, what are the conditions under which a patient shall be received for hospital treatment?—what are the guards which the law throws around the unhappy subject of this treatment to protect him in all his rights, so that he shall not be dragged from his friends, his business, and his home without a due regard to those rights? And, secondly, what is the best mode of treatment after he shall have become the subject of hospital treatment? I desire to say a very few words on each branch of this general subject.

I wish to say, in the start, that we must not believe that we have reached perfectibility. It is hardly a century since the unhappy subject of hospital treatment was treated as a malefactor of the worst grade, chained down and subjected to every personal indignity, and if not completely mad when he entered the institution, certainly made so by the treatment pursued. It is a subject of congratulation to us as Pennsylvanians that the first attempt at humane and rational treatment was begun in this State, and has been steadily advancing until the most prominent institution in this county and State has gone as far as perhaps it is possible to go for the relief of the sufferings of those who are incurably insane. But there is a very large class who are hovering on the border-line.

For the past twenty-five years I have watched with some care the enactments on this subject. Formerly the statement of any relative, with the certificate of any physician (not required to be verified by oath), was sufficient for admission into a hospital for the insane. There were grave objections to this. The reader of the first paper has said that Lord Shaftesbury asserted that out of one hundred thousand cases he had never known a man or a woman introduced as the subject of hospital treatment who was not a proper subject for such treatment. I see just opposite me a gentleman who will verify all that I say when I state that, fifteen or sixteen years ago, a man as sane as any one in this room was sent to an insane asylum on a physician's certificate. He was promptly discharged by a late chief justice on a writ of habeas corpus. He was, to use a euphemistic expression, the

victim of the hallucinations of his family: he was under no hallucination. These cases do occur, although they are undoubtedly rare. I think that it was in consequence of this occurrence that the Act of Assembly was passed requiring the certificate of two physicians to be made within a week after a personal examination, the examinations to be made separately and verified by affidavit before a magistrate of the county. There is nothing to exclude a joint examination. The object of the law was to throw each of these gentlemen on his own responsibility by requiring his separate affidavit; and surely no objection should be made to that. I know of no instance in which a physician has been brought in jeopardy of his pocket by making a certificate in good faith. It is possible, indeed probable, that there are such cases with which I am not familiar, but I doubt if they often occur. The certificate is in the nature of a privileged communication, and, if made in good faith, the provisions of the Act of 1883 should protect him if he has unfortunately fallen into error. He has done the best he could, and that is all that any one can do. Everybody makes errors of judgment every day of his life. I do not know, as at present advised, that we can go much farther in this direction. The medical profession has always been the pioneer in works of beneficence. A distinguished judge once said publicly that physicians did more good charitable work without expecting or receiving any earthly reward than any other body of men that he had ever met. The black sheep among them constitute but a small percentage. We must rather look, therefore, to the medical profession for improvement in this respect. The legislators of the State and the legal profession are always glad to receive suggestions from it. The law at present may be somewhat crude, but it is the best that has been suggested.

I may say in quasi reply to my distinguished friend on the opposite side of the room, that the person whom he followed to the gallows was convicted as properly under the laws as it is possible for a man to be convicted. The man may have been insane; such a thing is possible; but I believe that he was as properly convicted as a man can be under our very imperfect system of trial. We cannot look into the heart. We can only judge of the heart by the actions. Eighteen months ago there was something like an array in this room of the two professions against each other upon this point, which should not be. They should work together in all these subjects, and endeavor to pull in perfect harmony towards the desired end, and not be placed in antagonistic positions.

A word as to what the treatment should be after a patient is received. In addressing the eminent gentlemen here to-night, and the chairman, who is himself an expert of the highest order of merit, I wish to make some suggestions which have occurred to me some time since. I believe that there is a large class of the insane who have no homicidal or suicidal tendencies, who could be allowed a greater measure of liberty than they have at present under our imperfect system. I wholly agree with the suggestions of my friend Mr. Clark. There are undoubtedly a large number of men who may be of sound mind so far as the ordinary affairs of life are concerned, and who yet may be hovering on the border-line, and for whom residence in a hospital for the insane may be the worst possible treatment. If they could be separated from contact with associations which may be irritatingly exciting, and yet not be consigned to a hospital for the insane, but to some intermediate place of treatment, I believe that it would be a great gain. It is said, and I believe on the very best authority, that in order that there may be a good chance of a cure the disease must be taken in charge very early. The statistics with which we were favored to-night show that the cases treated within from three to six months of the access stand a vastly better chance of recovery than those taken after the first year. If the suggestions of Mr. Clark were carried out, I believe that they would do much good. I go so far as to say that I believe that even in the case of the incurable insane much of the restraint could be removed. The only dangers to be guarded against are danger of the individual to himself and danger to others. We should protect society, and we should protect the party against his own acts; but we are not required to go beyond this.

These are the thoughts passing through my mind after hearing the excellent papers that have been read. I am not a partisan or extremist on either side. So far as the law is concerned, I am willing to admit that it is a very rough instrument, and only approximates—and that very imperfectly—to the dispensation of justice in human affairs. Medicine is a science,—at least it is an art based upon scientific requirements,—and has a much higher field than the law. I believe that all these great improvements come quite as much from the medical profession, if not more so, than from any other quarter, and I am looking for further advance from the eminent men in that profession.

Dr. E. N. Brush: The objection made by Dr. Wood that there seems to be no provision by which a person dangerous to himself and to society can be placed in an asylum, except by the action of the friends, would seem to be met by the requirements of the lunacy statutes of the State of New York, which provide that a justice of the court may, upon complaint, issue a warrant and summarily commit a person who is complained of by any one as being dangerous to himself or to others, upon taking proof as to his insanity. If his friends are not able to support him, the charges

are collected from the county; otherwise his friends or estate must bear the expense.

In regard to the accountability of physicians, I think that they are not anxious to shift any of the responsibility which devolves upon them for careless or injudicious opinion; still the fact remains that there is nothing to prevent a lunatic discharged unrecovered from bringing action for damages, which, although unsuccessful, may put the physician to much expense in defending himself.

I am happy to be so well supported in my plea for early treatment as I have been by Mr. Clark's paper. His suggestion for intermediate hospitals is in the line of early and prompt treatment.

I see no reason, however, why the suggestions of Mr. Clark might not be applied to many of the asylums of this State. I am satisfied that there is no superintendent or physician connected with any asylum, if the cases were brought early, who would not be willing to place the patients in such a position that their recovery would be hastened and not retarded by unpleasant surroundings.

At the hospital with which I have the honor of being connected, the Pennsylvania Hospital for the Insane, we every year treat a number of these incipient cases, who come and remain voluntarily, and who do not seem in any way disturbed by their surroundings, and we know of no legal objection to their remaining for indefinite periods, as long as no detention is exercised. As far as a patient's residence in an intermediate hospital is concerned, there must be some legal right to detain him there in case he will not yield to the judgment of his friends or the physician, otherwise we are left in the same position as at present.

Dr. S. Weir Mitchell: Eight or nine years ago, after returning from England, where I had been through many of the hospitals for convalescents attached to the great English hospitals in which patients of a doubtful mental state were placed, I went to the authorities of the Pennsylvania Hospital for the Insane and proposed, for myself and a lady of this city, to make a reasonably liberal gift for four years if they would start an institution of this kind. It was promptly rejected as not practicable. The offer was then made to the managers of the Friends' Asylum, but after consideration it was rejected. I am happy to learn that, under the guidance of my friend Dr. John C. Hall, better counsels have prevailed, and the first institution of this kind has been established near this State. I believe that there is a similar institution in New York State.

Dr. H. C. Wood: I should like to say a word with reference to the remarks of my friend Mr. Biddle, referring back to the old Taylor case. It seems impossible to get the legal mind to understand the position which I and, I believe, most of the medical gentlemen connected with that case took. I never said that the laws of the State of Pennsylvania in that case were not properly executed. I do believe that the laws of the State of Pennsylvania need alteration. The difficulty is that the legal gentleman who administers the law makes the law as it exists a part of himself, and then becomes a partisan of the law as it now exists. The legal profession come to believe that the law is perfect, and the moment any one dares to differ in that respect, that moment the elements of more or less partisan feeling make their appearance.

Dr. William L. Robinson: There is one class of patients to which reference has not been made, and that is the criminal insane. I should like to know what disposition should be made of these people at the end of their sentence. If they are liberated, they are soon arrested for repeated crimes and returned to prison. We have already received this year at the penitentiary six insane people liberated in November last. The expense of the repeated trials of these people is great. There should be some method of disposing of them which would avoid this expense and at the same time protect the community. Our asylums for the insane have not detained them when sent there. Will some of the chiefs of asylums present tell us of the influence of the criminal on other insane patients?

Dr. John C. Hall: I feel that I can speak somewhat experimentally, as the Friends' Asylum has tried this intermediate system of treatment, as Mr. Clark has termed it. Our house at Atlantic City has given good results. There are many cases that can be better treated in a small house than in the wards of a large hospital. There are many persons whose relatives would send them to such a house, and yet would not place them in a hospital merely because of the prejudices which exist in reference to these institutions. I should be glad if some modification in the lunacy laws could be made to cover this particular point. It is, I think, a subject of vital importance.

Dr. Francis X. Dercum: I think that the point raised by Dr. Wood has not been sufficiently dwelt upon,—that is, in regard to the protection of the community from the insane who are not confined by their friends. A year ago I had an experience illustrating this very point. I was called in the middle of the night to a house in my neighborhood, where I found a woman in a state of acute mania. She had torn off all her clothing, and was engaged in a desperate struggle with her father and two sisters. The latter soon became terror-stricken. I alone was unable to control her, and we were obliged to call in assistance from the street, and we had the unedifying spectacle of a strange man, a policeman, and a physician in a struggle with a naked woman on the floor. The patient was finally quieted by the hypodermic use of

sedatives. The next morning I called at the house with the object of arranging for her removal to an asylum. I was met with a prompt refusal. In my ignorance of the law I went to the police-station and informed the sergeant of the facts of the case, and there the matter ended.

Dr. CHARLES K. MILLS read a paper entitled

SUGGESTIONS AS TO LUNACY AND INEBRIATE LAWS.

DISCUSSION.

Dr. S. WEIR MITCHELL: With reference to voluntary incarceration, I wish to say that I was one of the Commission that framed the law of 1883. I made great efforts to have this period of one week changed. I desired that it should be made at the will of the person concerned, but limited to six months. I was, however, unable to bring a majority of the Commission to this view.

Dr. S. PRESTON JONES: I have made some inquiry in reference to this law of Connecticut, but I do not find that it has been resorted to to any extent. At the Retreat at Hartford they have received only one patient in ten years, under its provisions. There is only one inebriate asylum in the State, and that is a private one. The law was amended two years ago, so as to permit a judge of probate to put the inebriate under the care of any reputable physician in the State. There is a law in this State providing for the care of the property of a drunkard, but it is rarely resorted to.

GEORGE W. BIDDLE, ESQ.: I wish to express my concurrence with Dr. Mitchell in regard to the desirability of extending the period to which a man may voluntarily commit himself. This is reasonable to the last degree. I should have gone a little further, and have said any time within one year if the patient choose.

Dr. CHARLES K. MILLS read a paper on "Confessions of the Insane," and related the case of a patient who confessed (about the same time that Wilson made his confession) to having murdered a man named Stahl and to having thrown his mutilated body into Wissahickon Creek.

The next paper was entitled "Description of the Brain of John M. Wilson, recently Hanged at Norristown, Pennsylvania," read by Francis X. Dercum, M.D. (See page 368.)

(To be continued.)

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF FEBRUARY 7, 1887.

(Continued from page 359.)

DR. CHARLES W. DULLES: I have long been interested in the study of hydrophobia, and it is but natural that I should be much interested in the paper of Dr. Ernst. He has described more accurately than I have seen described by any other experimenter the experiments which he has made with reference to this subject. I think I may say that I am familiar with everything that M. Pasteur has said or written upon this subject since he began his investigations, and it is a curious coincidence that my own studies began at exactly the same time. I have failed, as have other investigators, to find in the reports of M. Pasteur's experiments that detail and that accuracy which would become the seriousness of the subject which he has undertaken.

The experiments so accurately described by Dr. Ernst prove certain things conclusively, but I am, in some respects, sorry to say that I am not entirely convinced that they prove conclusively what he thinks they prove. This for several reasons.

In the first place, I think that a fundamental error is connected with the material with which he experimented and which he received at the hands of M. Pasteur, namely, two rabbits, one of which died on the voyage and the other survived. Those who are familiar with M. Pasteur's work are aware that he considers that the most important characteristic of the refinement to which he has brought the virus of rabies is the fact that it produces the outbreak, and ordinarily death, in six or seven days. When M. Pasteur began his work he stated that the inoculation of the virus from mad dogs under the dura mater produced rabies in a period of two or three weeks. Any one can see that there is considerable difference between two weeks and three weeks. Of the two rabbits which Dr. Ernst received, one died in nine days and the other in thirteen days. M. Pasteur, in the last communication in which he speaks of this point, says that he now gets a regular period of incubation of seven days, and that there is a gradual tendency to diminish to six days. I am not disposed to take anything that M. Pasteur says too exactly. I have no hesitation in saying that M. Pasteur says very different things at different times, and I have sometimes found it extremely difficult to reconcile his statements. An illustration of this is seen in what we have heard to-night. We cannot presume that there is greater candor on the part of M. Pasteur than there has been on the part of Dr. Ernst, yet Dr. Ernst speaks of the average period of incubation in his rabbits which have died as being fourteen days, the shortest period being ten and the longest twenty-one days. Speaking of averages in so small a series of cases is entirely fallacious. In the cases reported, the period at which death has occurred has varied between ten and twenty-eight days. Ten days is three days more than M. Pasteur's average, and twenty-eight days is four times as great as Pasteur's period.

Another point in which I think that the speaker has fallen into error is in stating that

Pasteur commenced his work of inoculation with virus derived from a child dying of hydrophobia. Pasteur has repeatedly stated that his virus was originally derived from a dog. There was a child who died of what was supposed to be hydrophobia, and M. Pasteur made some experiments in connection with this child which were conspicuous in the fact that they led him into an egregious error. Dr. Ernst has spoken of Pasteur's virus protecting against itself and also against the bites of rabid dogs. If we grant M. Pasteur's claim that his inoculations have saved the lives of a number of persons bitten by dogs, it would have to be admitted that this was proved; but I do not admit this claim. As to animals, I suppose that Dr. Ernst refers to certain experiments made under the eyes of the government commission, in which certain dogs were inoculated. The report of these experiments was made at the International Congress at Copenhagen, the results of the experiments being telegraphed to Pasteur there. I have taken the trouble to investigate the work of this commission, and I find that there were only four cases which were traced to their end, and that none of these had any bearing upon the question under consideration. What we want is absolute proof that this method of Pasteur has anything to do as a protection against what is called hydrophobia.

I would call attention to another point. Dr. Ernst has reported a number of failures in his experiments, but I have failed to see any admission on the part of M. Pasteur that any of his experiments have been failures, although he has recently admitted that there must be some failures with every method. It seems curious that Pasteur is the only person who has made these experiments who has not met with a large proportion of failures.

Dr. Ernst has referred to Spitzka's experiments. I had the pleasure of seeing some of the animals he experimented upon, and I am convinced that they presented symptoms described by M. Pasteur as characteristic of the inoculation of rabies.

The control experiments of Dr. Ernst are very interesting, and, so far as they have gone, very instructive. What we need to settle the question whether or not this virus can be called specific is a series of subdural inoculations made, after the method of Pasteur, with a variety of substances. The control inoculations which Dr. Ernst has made were, I believe, made in the groin, and not under the dura mater, as is done in the so-called rabic inoculation.

To certain of Dr. Ernst's conclusions I think we may all agree. It would be foolish to deny that M. Pasteur has obtained something, which we may call a virus, which being inoculated produces a certain set of symptoms, and that when a similar material attenuated in a certain way is inoculated into animals to prepare them for subsequent stronger inoculations they will resist the action of the stronger inoculations. Of this there can be no doubt. But the idea that Pasteur can prepare a virus of greater intensity, which, being inoculated after the accidental inoculation of another virus of the same kind, will catch up to it and pass beyond it in the period of incubation, and that these two will produce no effect when either would have produced death, staggers my intelligence. It may be true, but I can see nothing logical in it.

Everything in this work depends upon attention to details. Dr. Ernst has told us that in order to make these protective inoculations it was necessary to have the material ready upon certain given days. I should like to know how it would be possible to have the virus ready on any given day, when the animal may die at any period from three or ten days to twenty-eight days. I think that the way in which this is overcome in Paris is this: in Pasteur's laboratory it is assumed that the operation has been a success, and when the day arrives when the virus is needed the animal is killed. When we remember what proportion of failures occurred in Dr. Ernst's experiments, what guarantee have we that the animals which are supposed to be preparing the virus are not those which if not killed would have escaped?

To my mind, the essential point in this matter is simply this: that this interesting subject which has been so ably investigated has nothing to do with rabies at all. I am confident from my own studies that Pasteur's work has nothing to do with rabies. I should like to know exactly what Pasteur began with. If there is any living man that can tell that, it is Pasteur; but he has not told it. The nearest I can get at this is the inference that M. Pasteur is working with the descendants, through a great series of generations, of some material which he obtained from a dog in the pound at Paris. I am convinced that his first virus was not obtained from the child spoken of before. From the beginning to the end it has been assumed that this is the virus. This is, I think, entirely erroneous.

A word with regard to the symptoms of the paralytic form of rabies and the admission of Dr. Shakespeare with reference to what he saw in Koch's laboratory. In recent investigations in Germany with reference to the tetanus-germs, it has been found that some of the symptoms produced are similar to those of Pasteur's artificial rabies. It is interesting to note that the virus for this tetanus is not necessarily derived from an animal that has died of tetanus, but that it may be obtained from garden-soil. The accounts of a good many of the cases supposed to have died of rabies would warrant the belief that they have died of tetanus. I have already stated my objections to M. Pasteur's claims and assumptions, in a paper read before the Philadelphia County Medical Society a year ago. In a matter like

this, where opinions are so diametrically opposed, time must decide who is right and who is wrong; but for myself I have no hesitation in saying that I think that Pasteur's work will prove before long to have been a delusion and a snare, and that the sooner we get back to legitimate methods of clinical study the sooner will we understand the whole subject of hydrophobia and rabies.

Dr. Charles B. Nancrede: Since one gentleman has been arguing solely by analogy without any experimental knowledge of the subject, I would like in answer to submit two or three questions, without committing myself to Pasteur's or any other theory. Will any gentleman here affirm that vaccination will show an exact period of incubation in every case? Will any one say that he has not seen it anticipate or defer for a period of days? Is it not true that tetanus may kill, as in the classical case, in fifteen minutes, but may not cause death for weeks? Yet does any one doubt that it is the same disease? We have a right to average the probable number of hours or days that a case of acute, subacute, or chronic tetanus may continue. I have no doubt that there are cases of acute, subacute, and chronic rabies. I would like further to add that, twenty years ago, the results of antiseptic surgery were denied because the theory was thought to be unproved. Now most of us, whether we believe in the theory or not, do not deny the results. Would it not be just as well to hold in suspense our judgment with reference to this matter, and not condemn it simply because the theories do not fit in with our preconceived ideas, especially if we have had no personal experience in experimental work?

The challenge has been thrown down for a known instance where a weaker virus could overtake a stronger virus and prevent its action. We are constantly putting this in practice in the case of smallpox. I, in common with most here, have seen it myself, and Dr. Welch has stated over and over again that unprotected children that have been sent to the smallpox hospital with their parents have been successfully vaccinated and have never contracted the disease.

Dr. R. S. Huidekoper: My experience with hydrophobia is confined entirely to inoculations made for the purpose of confirming a clinical diagnosis. There is one point in regard to the symptoms of hydrophobia to which I will refer. The word "furious" should be used with the word "form," and the word "excitable" with the word "stage." During the course of mute hydrophobia, which commences with paralytic symptoms, we have certain stages of hyperæsthesia or perversion of the sensitive nerves, especially the nerves of special sense. This may last a considerable time. The paralysis of certain groups of muscles appears after the stage of hyperæsthesia. Another form of hydrophobia is that known as the furious form. These two forms are influenced to a great extent by the species of the animal and by the individuality of the animal. In rabbits the usual form is the mute or paralytic form. In man both forms are seen. In the horse of both sexes and in male cattle the furious form is the most common. In female and younger cattle the paralytic form is usually met with. In dogs both forms occur, influenced by the race. In the ruder races and in those in which there is a reversion to the lower type the furious form is met with, while in those races which have been more domesticated, as the setter, the spaniel, and the poodle, the paralytic form is the more common. In certain animals, as, for instance, the rabbit, the furious form can be looked upon as merely an idiosyncrasy of the individual. Only a general idea could be formed beforehand as to the form the disease would take in any given dog.

As to the period of incubation, I think Dr. Dulles has entirely misunderstood Dr. Ernst's paper. I think Dr. Ernst put special cases which have shown a greater or less period of incubation to one side, and has based his statistics upon the larger number of cases which ran an even course. The period of incubation is excessively variable when the inoculation is directly under the dura mater. It is certainly longer when the contagion is taken in the ordinary way. There is one case in which the disease did not develop until seven and one-half months after inoculation. During this time the animal was entirely secreted from the possibility of any contagion, and all the time it was under my own observation.

Dr. Shakespeare has called attention to the fact that his average period is twenty-four hours longer than that of Pasteur. I did not note whether he stated the number of generations that the hydrophobic virus had been through in his cases. Pasteur's is based upon twenty-two inoculations of rabbits before the absolute fixity of the virus was obtained.

(To be continued.)

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held February 9, 1887, the President, T. MITCHELL PRUDDEN, M.D., in the chair.

ON STAINING ELASTIC FIBRES.

Dr. FREEBORN described and presented microscopical sections illustrating two new methods of staining elastic fibres, one known as Lustgarten's method, and the other as Herxheimer's.

PARAPLEGIA OF POTT'S DISEASE.

Dr. RIDLON presented a portion of the spinal cord of a girl, 6 years of age, who had suffered about five years with a kyphosis in the upper dorsal region of the spine. She was first seen by Dr. Ridlon in 1883; the kyphosis

had been observed in 1881. The treatment at St. Luke's was rest in bed. The paralysis of the lower extremities became complete; she did not lose control over the bladder and rectum. In 1886 she began slowly to regain some control of the muscles of the leg, and was finally able to walk across the ward, wearing a support. Bronchial and pulmonary symptoms developed, and she died recently. Dr. Frank Ferguson, who made the autopsy, found old adhesions over both lungs, tubercles, and areas of hemorrhage of small size. The left ventricle was moderately dilated, the right enormously dilated. The caries of the spine involved the last cervical and the first five dorsal vertebræ; the sixth cervical and the sixth dorsal vertebræ were not more than an inch and a half apart; the space between was filled with cheesy material. The cord at this region was flattened, and the gray substance not distinguishable; above and below the angle of deformity it appeared normal.

Dr. Ridlon knew not why some cases of paraplegia from Pott's disease recovered within three months, while others required more than that number of years. He knew of no treatment of particular benefit, except absolute rest in bed. He had tried iodide of potassium, and felt convinced that it was of no value except in syphilitic cases. Dr. Ferguson had seen several cases of Pott's disease of the upper part of the spinal column, accompanied with dilatation of the right side of the heart and consequent pulmonary symptoms, terminating life.

Dr. Van Santvoord related the case of a girl who recovered from paraplegia attending a kyphosis in the dorsal region after application of the actual cautery over the deformity, and Dr. Carpenter referred to the case of a man who recovered so far as to be able to walk about and do some business after having suffered from paralysis of the lower limbs three or four years. He had arranged an apparatus for partial suspension when in bed.

Dr. Ira Van Gieson suggested that the recovery of motor power took place through collateral tracts.

Dr. Ridlon thought that about nine cases out of ten of paraplegia from caries of the spine recovered, but he was unable to tell why these recovered and why the remaining one-tenth did not.

MENINGITIS OCCURRING IN THE COURSE OF PHTHISIS.

Dr. H. J. Boldt presented the lungs of a child, 9 months old, which had been apparently in perfect health until about four days before death, when unmistakable symptoms of meningitis developed. There had been no symptoms to call attention to the lungs, yet at the autopsy there was found adherent pleura and a cavity containing pus, surrounded by fibroid tissue. The brain showed simple meningitis.

OVARIAN CYST; PERIUTERINE INFLAMMATION.

Dr. Boldt also presented the uterus and appendages removed at autopsy from a woman, aged 49, in whom a small ovarian cyst had been diagnosticated and an operation had been advised but rejected. The uterine extremities of the tubes were closed, the ovary on the right side was cystic, the ovary and tube on the left side were indistinguishable in an inflammatory mass; among the retroperitoneal glands were small tumors, probably sarcomatous. The case he thought emphasized the importance of an immediate operation in such cases of pelvic tumor, although of small size.

ANTHRACOTIC PNEUMONIA.

Dr. W. H. Porter presented a pair of lungs which illustrated a class of cases a number of which he had seen this winter. The patients entered the hospital with the history of having worked under ground, having had chill, followed by a rise of temperature, which, as a rule, did not go above 103° or 104° F. They got along pretty well the first week; the temperature then fell, and the symptoms abated; they felt pretty comfortable until persistent dyspnœa made its appearance, and most of them died of the dyspnœa and œdema of the lungs. Whether the anthracotic condition of the lung predisposed to the lobar pneumonia he was unable to say. In the specimen presented, the pigmentation was very deep.

DILATED URETERS.

Dr. Thatcher presented a ureter found dilated from the presence of small polypi developed from the lining membrane. He also presented the ureter found in a fœtus of 6 months, dilated to the size of the thigh.

FOREIGN BODY IN THE EYE.

Dr. Ira Van Gieson presented the specimen, showing a thorn which had penetrated the sclera one centimetre posterior to the sclero-corneal junction, passing through the globe as far as the diagonally opposite ciliary body. Enucleation had been performed three weeks after the accident. Panophthalmitis was present.

TUBERCULAR DISEASE OF THE PHARYNX.

Dr. Van Santvoord presented the pharynx of a child which for some time had suffered from symptoms of pulmonary tuberculosis. A few days before death dysphagia developed, but the house-physician failed to discover any cause within the pharynx. The autopsy showed one large ulcer in the pharynx, one or more smaller ones, and changes in the lungs. Dr. Van Santvoord thought that tubercular pharyngitis was probably less rare than would be inferred from the books: the pharynx being seldom examined, disease there might be overlooked.

VAGINAL HYSTERECTOMY, UTERINE FIBROMA, AND POLYPI.

Dr. DUDLEY presented the uterus removed by the vagina in a woman, aged 48 years, suffering with carcinoma. She was the mother of eight children, had been attended by a midwife, and was unaware of a laceration of the cervix which was present. After cutting through the cul-de-sac a small fibroid of the uterus was found, and he was obliged, after passing the elastic ligature around the uterus, to remove it piecemeal. This method of operating necessitated the use of the ether three hours. The patient rallied well, but the next day suppression of urine existed, which caused death thirty-eight hours after the operation.

Dr. Dudley also presented a sloughing fibroid removed from the interior of the uterus, which had given rise to hemorrhage and pain. This patient had an intermittent heart-beat and also an aortic murmur; there was also albumen in the urine, which disappeared under the use of digitalis and potash. Notwithstanding the condition of the heart and urine, he gave ether. It was given a second time yesterday for closure of a double laceration of the cervix, and it would be given a third time for laceration of the perineum extending into the rectum. Comment upon the use of ether was left for Dr. W. H. Porter, who had made the microscopical examination of the first specimen.

Dr. Dudley presented a third specimen, it being a small polypus of the uterus, of interest from the fact that it was removed two years after the menopause, and at that time the uterus was found not diminished in size, but rather enlarged; the cervix was small.

Dr. W. H. PORTER said the carcinomatous disease in the first specimen was of the mixed form. The wound made by the operation was absolutely free from suppurative process. The kidneys were in a very rapidly advancing stage of acute parenchymatous metamorphosis. He had during the past three years made twelve or fifteen post-mortem examinations after some severe surgical operation, the patients having developed symptoms ordinarily classed as septicæmic. Yet the post-mortem examination showed the wounds undergoing healthy reparative process, with nothing to point to suppuration. In most of the cases the urine had been examined prior to the operation, and, as a rule, albumen and casts were absent, but in all the urine (when any could be obtained) contained albumen and casts after the operation. The kidneys were found in a state of advanced acute parenchymatous change, the tubules being blocked with casts. The so-called septicæmic symptoms were truly uræmic in nature. Etherization cut off oxygen from the system, which became poisoned with carbonic acid and the excessive amount of effete material, while at the same time there was decreased nutrition and physiological action of the different organs, particularly of the kidneys, which became surcharged with the waste and poisonous productions. He thought, therefore, that particular attention should be given to keep up the normal function of the kidneys before and after operations demanding an anæsthetic, and the anæsthetic should be given in as small quantity as possible. He believed that the larger the quantity of any anæsthetic the more injurious the effects. Ether also had a destructive effect upon the red blood-globules, more so than chloroform.

Dr. BOLDT had during the past year seen three deaths from so-called septic symptoms after operations, but the autopsy showed no septic centres, whereas the disease in the kidneys was sufficient to account for the fatal result.

Dr. DUDLEY said that he was now in the habit of giving about half a grain of morphine hypodermically half an hour before operating, which did away with the necessity for giving so much ether and at the same time diminished shock.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting of the Academy was held February 3, 1887, the President, ABRAHAM JACOBI, M.D., in the chair.

The PRESIDENT, in an interesting address, pointed out graphically the usefulness of the Academy with its Sections, and referred to the necessity of soon purchasing a new building-site.

ON DETECTING AND LOCATING METALLIC MASSES IN THE HUMAN BODY BY THE INDUCTION BALANCE AND THE TELEPHONIC PROBE.

Dr. JOHN H. GIRDNER, the author, first referred to the apparatus constructed by Professor Bell for detecting the bullet in President Garfield's case, an experiment which failed because of the haste in its preparation, and because the patient was lying upon a metallic mattress, unknown at the time, which interfered with the proper working of the instrument. Dr. Girdner said that now, however, we have a perfected apparatus, which will detect and locate any piece of metal wherever situated in the human body. It would prove particularly useful in times of war. The second apparatus, which he ventured to name the telephonic probe, was also the invention of Professor Bell, and was useful in connection with the induction balance, as by it the exact distance to the ball could be determined.

In the construction of the induction balance a bichromic battery was used, with six cells and an ordinary interrupter, the interruptions being about six hundred to the sec-

ond. The exploring cells were put in a framework of wood, which he called the explorer, while to the others the name adjusting coils was given. Thus in the primary current were two coils, in the secondary current were also two coils, and in the circuit was a telephonic receiver. When the exploring coil was not in relation to a metallic substance, there was silence in the telephonic receiver; but as the explorer approached or receded from the metallic mass the balance was disturbed, producing a musical tone in the telephonic receiver. The sound was distinct a distance of six inches from the metal if located in the human body; a less distance if the intervening space was occupied by air or an inorganic substance.

The telephonic probe consisted of a telephonic receiver and two wires, one terminating in a long, slender steel probe, and the other being connected with a steel plate laid over the surface of the body in the neighborhood of the metallic mass, as determined by the induction balance. The steel probe being now plunged into the body (the surface having been first rendered insensitive by an anæsthetic), as soon as it reached the metal a distinct click was heard. The practical working of the first instrument was demonstrated upon a man in whose chest a bullet had become lodged during the rebellion, and of the second upon a piece of beef into which a mass of lead had been placed.

Dr. NEWTON M. SHAFFER read a paper on

THE USE OF CONTRACTION IN THE TREATMENT OF CLUB-FOOT, WITH A CONSIDERATION OF SOME OF THE MECHANICAL PRINCIPLES INVOLVED, AND A DESCRIPTION OF THE ANTERO-POSTERIOR AND LATERAL TRACTION APPARATUS.

The paper was supplementary of one previously published in the *Medical Record*. Numerous diagrams were presented, showing the mechanical principles involved in motion at the ankle-joint in health, and it was a return to this state for which treatment was instituted in club-foot. The author claimed that there was only one antero-posterior centre of rotation, and that was not at the ankle-joint, but below it. The direction of the heel in flexion of the foot was downward and forward, and of the toes forward and upward. These principles should be carried out in any apparatus designed to overcome club-foot. But in fact the apparatuses employed ordinarily act on principles quite opposed to those which we see in nature. For instance, instead of being constructed and applied in a manner to push the heel downward and forward and to bring the toes upward and forward in overcoming talipes equinus, they make direct traction upon the toes, fix the heel in a manner to prevent it going downward and forward, and indeed, by the force exerted upon the toes, tend rather to bring the heel in the opposite direction,—namely, backward and upward. His own instrument, based upon the principles seen in the action of the healthy foot, was then described, and also the one intended to overcome equinovarus,—instruments which he had greatly improved since his last publication. He rarely found cases which did not conform to traction treatment, and still more rarely those which did not yield to tenotomy and traction combined.

Dr. RIDLON said that after six years' experience he was unable to obtain as good results from the lateral shoe as were obtained by Dr. Shaffer. There were certain cases in which good results could not be obtained by traction, by whomsoever applied, and he thought we ought to be able to distinguish those cases from the beginning. One indication was a shiver or shudder passing throughout the patient's system when the foot was placed upon the stretch.

Dr. KETCH said it ought not to be forgotten, in applying Dr. Shaffer's method of treatment, to employ traction intermittently. Relapses after tenotomy were common, and the usual, so-called, after-treatment was rendered much less by the use of traction with Dr. Shaffer's apparatus. He had been much gratified with the results of the lateral extension shoe.

Dr. JUDSON remarked that, inasmuch as Dr. Shaffer's apparatus was capable of exerting a great deal of force, he thought it should be in capable hands. He would say, but not as a stricture upon the paper, that proper treatment, instituted very early, ought to do away with the necessity for an operation or apparatus.

Dr. SHAFFER closed the discussion, and expressed some surprise that Dr. Ridlon had found the use of his lateral traction apparatus difficult. In fact, the parents could regulate it after a few visits by the physician. It should be made to fit in the first place, and the treatment should not be hastened. Some of his best results had been obtained in cases in which Dr. Ridlon thought tenotomy was indicated: namely, pain and a shudder passing through the system on making traction with the shoe.

The President was chosen as one of the committee to consider the question of an eligible building-site for the Academy, the other two, consisting of Drs. George A. Peters and F. A. Castle, having been named by the Council and Trustees.

In March the following resolution will be voted upon:

"*Resolved*, That the Trustees and Council be and are empowered to purchase a site or building, or erect a new building for the Academy, when such a course shall be considered expedient."

The Academy then adjourned.

REVIEWS AND BOOK NOTICES.

DISEASES OF THE DIGESTIVE ORGANS IN INFANCY AND CHILDHOOD. With Chapters on the Investigation of Disease and on the General Management of Children. By LOUIS STARR, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. With Colored Plate and other Illustrations. Philadelphia, P. Blakiston & Co., 1886.

The class of disorders which are included under the title of diseases of the digestive organs is so numerous and important as to warrant a separate treatise upon the subject. This is rendered necessary by the insufficient attention usually given in works on pediatrics to the general regimen, which is even of greater importance than the administration of drugs. Commencing with affections of the mouth, Dr. Starr systematically discusses the individual disorders which affect the alimentary tract. The recommendations for treatment are clear, full, and evidently based upon extended experience. The volume is handsomely printed.

A REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-Lithographs and Fine Wood Engravings. Edited by ALBERT H. BUCK, M.D., New York City. Volume IV. Bound in cloth, sheep, and half morocco; prices, $6, $7, and $8 per volume. New York, William Wood & Co.

Commencing with Ichthyol, the fourth volume of this valuable Reference Hand-Book carries the subjects, alphabetically considered, as far as Melford Springs. The most important articles are those on Insanity, on the Kidney, on Labor, on the Larynx, and on Micro-Organisms, which are freely illustrated. The technology of the culture-methods of the various forms of bacteria, pathogenic and other, is carefully described by a competent hand. For convenience of reference, clearness of statement, and presentation of the present state of development of the several medical sciences, we believe this work to be unrivalled.

MISCELLANY.

THE Medical Society of the State of New York held its eighty-first annual meeting in Albany, February 1, 2, and 3. An essay by Dr. A. N. Bell, of Brooklyn, entitled "Physiological Condition and Sanitary Requirements of School-Life and School-Houses," received the Merritt H. Cash prize, and was ordered to be printed and distributed to all municipal and other authorities and officials having schools under their management.

The newly-elected officers are—

President.—Dr. Alfred L. Loomis, of New York.

Vice-President.—Dr. A. M. Phelps, of Chateaugay.

Secretary.—Dr. William Manlius Smith, of Syracuse.

Treasurer.—Dr. Charles H. Porter, of Albany.

THE CAMDEN COUNTY MEDICAL SOCIETY held a meeting on February 8 at the West Jersey Hotel, when by invitation Dr. Thomas G. Morton gave a demonstration of the appliances and modes of dressing wounds antiseptically. A number of guests were present, for whom excellent entertainment was provided.

PROFESSOR LUDWIG BANDL enjoys the rare privilege of reading his own obituary notices. His sudden and severe illness soon after his arrival in Prague led to the premature publication in a German medical journal of his death. This announcement has also been made by a number of American journals, which now, with as much grace as possible, have to congratulate him upon his recovery.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 13, 1887, *TO FEBRUARY* 26, 1887.

LIEUTENANT-COLONEL JOSEPH R. SMITH, SURGEON.—Detailed, in addition to his present duties, as President of the Army Medical Board in New York City, New York. S. O. 38, A. G. O , February 15, 1887.

MAJOR W. S. TREMAINE, SURGEON.—Sick-leave still further extended four months, on surgeon's certificate of disability. S. O. 39, A. G. O., February 16, 1887.

CAPTAIN LOUIS J. TESSON, ASSISTANT-SURGEON.—Ordered for duty as attending surgeon at Headquarters Division of the Missouri and examiner of recruits at Chicago, Illinois. S. O. 44, A. G. O., February 24, 1887.

CAPTAIN ARTHUR W. TAYLOR, ASSISTANT-SURGEON.—Relieved from duty at Camp Medicine Butte, Wyoming, and ordered for duty at Fort Laramie, Wyoming. S. O. 14, Department of the Platte, February 12, 1887.

CAPTAIN M. C. WYETH, ASSISTANT-SURGEON.—Ordered from Fort Wayne, Michigan, to Fort Barrancas, Florida. S. O. 39, A. G. O., February 16, 1887.

CAPTAIN GEORGE MCCREERY, ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 35, A. G. O., February 11, 1887.

FIRST-LIEUTENANT CHARLES C. BARROWS, ASSISTANT-SURGEON.—Resignation accepted by the President, to take effect February 17, 1887. S. O. 42, A. G. O., February 19, 1887.

FIRST-LIEUTENANT WILLIAM J. WAKEMAN, ASSISTANT-SURGEON.—Relieved from duty in the Department of the Platte, to take effect on the expiration of his present leave of absence, and ordered for duty at Fort Walla Walla, Washington Territory. S. O. 36, A. G. O., February 12, 1887.

FIRST-LIEUTENANT CHARLES S. BLACK, ASSISTANT-SURGEON.—Ordered from Fort Clark, Texas, to Fort Davis, Texas. S. O. 23, Department of Texas, February 18, 1887.

FIRST-LIEUTENANT EDWARD R. MORRIS, ASSISTANT-SURGEON.—Leave of absence extended twenty days. S. O. 35, A. G. O., February 11, 1887.

FIRST-LIEUTENANT CHARLES F. MASON, ASSISTANT-SURGEON.—Resignation accepted by the President, to take effect March 25, 1887. S. O. 44, A. G. O., February 24, 1887.

PHILADELPHIA, MARCH 19, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE ON THE TREATMENT OF SYPHILIS.

Delivered at the Hôpital de la Pitié, Paris,

BY PROFESSOR VERNEUIL.

(Translated for the MEDICAL TIMES from advance sheets.)

IN 1867 I read a communication before the Société de Chirurgie in which I opposed the views of the partisans of the expectant treatment of syphilis. I held at that time that this affection should be treated as soon as the diagnosis was made out, or just as quickly as the primitive or secondary manifestations were perceived; and I also stated that I could not see any advantage in waiting. It is impossible to judge beforehand if the virus is going to develop in a weak, medium, or strong form, or if it will be transient or tenacious. I therefore commence the general treatment as soon as possible, making every effort to prevent tertiary syphilis. It is true that I am never sure that I have attained this end, for tertiary accidents are happily rare, and one can never tell if they will show themselves or not. But, without having the actual proof, I believe in the efficacy of preventive treatment by mercury in all these cases.

If I cannot support my statements with exact statistics,—which is difficult to do in any disease,—my experience is sufficient to enable me to express at least a most profound conviction that the full mercurial course is the best preventive of tertiary syphilis.

Expectation is useful for only one thing: that is, to show to the physician the natural evolution of this disease and its degree of gravity; but, on the other hand, it is open to the objection of losing precious time, during which the virus settles deeply into the economy and profoundly changes the anatomical elements and the fluids. The expectant doctrine leads its adherents at best, if not to desire, at least not to be afraid of, tertiary accidents, because after them, they think, a certain cure may still occur. This, I am sure, is an important error, against which we cannot protest too strongly. These tertiary forms, I believe, are often very grave; so serious that they usually indicate a profound and inveterate intoxication. That the iodide of potassium modifies them very often I am willing to admit; but it does not do so always. It is sometimes entirely impotent, and is useless to prevent relapses. Then, even when it does act, it does not always remove the ravages of syphilis. Here I would cite particularly those cases in which ulcerated gummata have produced, in the process of healing, contractions, perforations, atrophies, anchyloses, deforming scars, etc. Once formed, all these various lesions are permanent and incurable, or at least necessitate plastic operations, the resulting success of which is very uncertain.

Potassium iodide, then, does not always succeed in curing the tertiary manifestations of syphilis. Sometimes it will not act at all, and at other times it will not be well tolerated. In some we can get only a passing amelioration, and these cases are at least as large in number as those in which it gives cures which seem to be durable. All authors give cases in which the iodide of potassium succeeded only after the temporary administration of mercury. For my own part, I have frequently remarked that herpetic patients are unfavorably affected by the iodide.

The treatment of syphilis must be long and patiently followed, because it is a disease of long duration. Its cure takes about two years. I do not wish to be understood as saying by this that the treatment must be given constantly and without interruption during two consecutive years. It should at first be rigorously followed for about four months; it may then be suspended during a month, and again taken up for periods of three or four weeks, with interruptions of about the same period.

Syphilis, without doubt, may be cured spontaneously, but the cases seem rare, and certainly cannot be foretold. Even if the treatment is useless, it does not seem to have any serious inconveniences. Uncertainty reigns here, as it does in the whole therapeutic field; but so long as we do no harm we may act without any scruple.

Mercury remains the most powerful modifier of syphilis in its first periods. If its direct action on the virus has not been proved, it is nevertheless demonstrated

that it modifies advantageously the isolated and successive manifestations of this general disease. Being at least as efficacious as any other remedy in a case of medium intensity, it is indispensable and could not be replaced in serious and tenacious syphilides, in visceral syphilis, in that of pregnant women, and also in that of new-born children.

A woman who is suffering with syphilis rarely carries to term the product of conception. Sooner or later she aborts, or else brings into the world poor, little, miserable beings that are hardly viable. This will be continued for several years in succession unless a proper mercurial treatment be given to remove the constant cause of the miscarriages. More than one union has become fertile only after the administration of mercury to one of the parties, if not to both. These facts are well established, and it is a great error to forget them.

What other form of medication have we to combat the syphilis of the newly-born? What success can we hope for from the expectant plan? And how many of these unhappy little ones can we save by topical and other trivial medication? Let us read over again the history of those epidemics of syphilis of former centuries, or even in our own times, and see how quickly their ravages were and are arrested by the intervention of mercury!

A mercurial treatment well directed, with the help of auxiliary means taken from hygiene, regimen, and the class of tonics, is, in the majority of cases, entirely harmless. It is important, therefore, to remove the prejudice in regard to it in the minds of the public. It is rare that we cannot succeed in having mercury tolerated, thanks to the resources of modern medicine. Syphilis and mercury are both accused—and with reason—of producing poverty of blood or a sort of artificial chlorosis. This double syphilitic and mercurial anæmia is to be combated by tonics, such as iron, cinchona, good food, etc., and this should be done as a preventive, and used before the impoverishment of the blood is established. Intestinal disorders are prevented by opium and its congeners, and hydrotherapy may be prescribed, with salt-water baths or sulphur waters.

Salivation is almost impossible if the mouth is the object of careful attention by constant gargling with solutions of the chlorate of potash, and if the gums are painted from time to time with tincture of iodine.

If the usual way of administration causes intolerance, we can use mercurial inunctions. In one word, exercise therapeutic and medical art. I closed my communication to the Society, in 1867, in these words: "*The problem of the cure of syphilis without mercury is not yet solved, and nothing indicates that it will be very soon.*" I have just read over these pages, and in truth I find but little to add to what I wrote twenty years ago. Certainly even then they were not novel; but at least my words opposed precise affirmations to vague assertions, obsolete theories, and questionable principles of practice.

I might dispense with the necessity of recalling them at this date if some eccentric persons from time to time did not enter the field against mercury, and especially to accord to nature a curative power which unhappily it does not possess. But the arguments of 1867 serve to answer them just as well in 1887, and also in 1907 if they still repeat their errors. In the paper spoken of I touched upon only a small number of points in the treatment of syphilis, and if you wish to know what I think of some other questions of practice after having treated syphilis for forty years, I can formulate some propositions for you:

(*a*) In cases where the diagnosis is difficult, I never rely solely on the indications given by the iodide of potassium, but always try mercury. I have observed, at least three times, tumors of the testicle which resisted strong doses of the iodide, and in which castration seemed consequently inevitable, when, to calm my conscience, I gave mercury, which brought about a cure in a few weeks.

(*b*) I scarcely ever give iodide of potassium in large doses; two or three grammes a day are my maximum, except in a few cases of rapid evolution, such as in gumma of the nose, of the palatine arch, or the soft palate and the pharynx, where it is important to stop its ravages quickly. Here it is necessary to give as much as five to six grammes a day; but as soon as it yields I always return to the smaller doses. Onychia also requires large doses; why, I do not know.

(*c*) I am not at all a partisan of the

association of mercury and the iodide of potassium. In ordinary cases of secondary syphilis I much prefer to give the mercury alone or associated with tonics and good alimentation. However, I use the mixed treatment very willingly for the late secondary or tertiary manifestations when mercury has not been given or when it has been insufficiently administered. In such a case I prescribe simply the protiodide of mercury in doses of five centigrammes, and the iodide of potassium with it to the amount of one gramme a day. The *sirop de Gibert* is a good preparation, but it is sometimes badly tolerated. I have seen baths of corrosive sublimate perform miracles in extensive ulcerated syphilides.

(*d*) I have rarely had recourse to mercurial frictions, of which, however, I recognize the special power in certain cases where it is necessary to act quickly and energetically. Even when I advise inunctions, I always return later to the internal administration of the protiodide or of some other preparation of mercury, in small doses which are continued for a long time.

(*e*) I have never used mercurial hypodermic injections; and I only rarely see any indication for them. I have not allowed myself to be carried away with the advantages they are said to possess of being the shortest treatment, since it is pretended that a cure is certain in fifteen, twenty, or thirty days. I think, on the contrary, that the destruction or neutralization of the syphilitic virus is better assured by a slow impregnation of the economy than by its more or less sudden saturation.

(*f*) In the local treatment of primitive ulceration and precocious secondary lesions, as well as the mucous patches, I give the preference to solutions of nitrate of silver of different strengths, and also to chloral. For late secondary and tertiary ulcerations the plaster de Vigo is the best preparation. As for the ointment of iodide of potassium which is used in hyperplasias (conjunctival, glandular, or bony), it is usually badly prepared. In the strength of four parts to thirty it inflames the skin, acts as a counter-irritant, and is not absorbed; in just half this strength, on the other hand, it is well tolerated, and penetrates much better, even to the deep structures.

ORIGINAL COMMUNICATIONS.

THE PROGRESS AND LIMITATIONS OF OPERATIONS UPON THE ABDOMINAL CAVITY.*

BY J. EWING MEARS, M.D.,
Lecturer on Practical Surgery in Jefferson Medical College; Surgeon to St. Mary's Hospital.

THE surgeon of to-day, standing upon the borders of the abdominal cavity and peering into its recesses, is compelled, like Alexander of old, to express regret that no more organs exist within its domain which remain to be conquered by his art and be rendered subject to his knife. As he thus contemplates the fields of conquest, he is led to consider, In what manner were these grand victories achieved, —what the beginnings of this mighty invasion into this cavity, hitherto regarded as so well protected by its innermost barrier, which afforded not only protection against intrusion, but embraced within its folds the organs contained within, and still further opposed assault? what the development of the methods which have accomplished victory? and, finally, if any exist, what the limits of surgical procedures within this cavity?

To those acquainted, as no doubt you all are, with the history of the progress of surgery, it is not necessary to dwell in detail upon the beginnings of surgical operations upon the abdominal cavity. In truth, it may not be possible to fix, in accurate statement, the beginning. While it is no doubt true that unpremeditated operations, resulting in the successful extirpation of organs the seat of morbid changes, established the feasibility of the successful performance of such operations, and led to further inquiry and study of proper methods, yet I believe that in the Cæsarean section we find the first premeditated attempt—a well-defined plan of operation upon the cavity carried into execution, and having in view a definite purpose,—executed under the inspiration of the noble impulse to make an effort to rescue from impending death the life, happily it may be, of two beings.

To show the great progress which has been made in the performance of this operation through the Porro-Müller modifications, it is only necessary to refer to the

* The annual Address read before the Philadelphia Academy of Surgery, March 7, 1887.

results which have followed in each. For one hundred years, as stated by Dr. Clement Godson, every Cæsarean section was followed by death in the Vienna hospitals. From 1787 to 1879 the same results followed in the Maternité of Paris. In Italy it was the same. The table which he presented at the end of 1884 gave one hundred and fifty-two cases of Porro's operation, with sixty-six recoveries and eighty-six deaths, and was based upon information gathered from eleven different countries and ninety operators.

Premeditated operations upon the ovaries and uterine appendages in a state of disease may be regarded as next in order of execution, the discussion of the first of which by surgical writers began in the seventeenth century, so far as related to the effects to be accomplished by such operations. Fifty years later the possibility of performing the operations was admitted, and, with many qualifying conditions, the attempt was recommended. The continued discussion of the subject, with the gradual advancement in knowledge, led in 1809 to the successful practice of operations based upon correct diagnosis and intelligent methods of procedure.

The operation for the removal of the healthy ovaries of women—an operation greatly vaunted in these recent days, and performed, in my opinion, with the exhibition of much reckless ignorance and lack of judgment—has descended from the Middle Ages and even more remote periods, in which it was employed upon young girls for the purpose of preventing the propagation of hereditary diseases and deformities and for maintaining the supply of barren prostitutes.

With the brilliant results achieved in ovariotomy, as reflected in the gradual but positive reduction of the rate of mortality and the vastly improved methods of operation, you are all familiar.

Within a few years, morbid conditions of the Fallopian tubes have been classified, their pathological relations determined, their diagnostic symptoms defined, and their treatment by surgical procedures established. Enlargement of these organs may be cystic in character, forming as it were retention-cysts, containing simple fluid, blood, or menstrual fluid. The contents may be purulent in character, the result of specific or non-specific inflammatory action. Papillomatous or fibrous growths may be deposited in their walls, causing enlargement; and, finally, the products of conception may find lodgment within these cavities, producing the several varieties of tubal pregnancy. Of these various conditions involving the Fallopian tubes, the latter, tubal pregnancy, has for a long period attracted the attention and commanded the careful study of surgeons and obstetricians, with the result of establishing as the best and safest practice removal of the tube and its contents by abdominal section as soon as the condition has been determined by careful examination to exist.

The extirpation of solid growths of the tubes may be required in cases in which their large size gives rise to symptoms of pressure upon important structures.

Within a very recent period much attention has been bestowed upon the subject of the different forms of salpingitis,—inflammatory conditions of the tubes. In a recent communication upon the etiology, pathology, and classification of salpingitis, Dr. Sänger, of Leipsic, presented as the result of his investigations a very complete classification of this affection, based upon the theories of infection by micro-organisms. The study of diagnostic symptoms and of methods of physical exploration has led in many instances to recognition of these conditions, and justified the extirpation by abdominal section as a means of treatment. In this connection it is interesting to note that Sir Spencer Wells states, in his work issued in 1885, that he had up to that time met with but four examples in which the disease of the Fallopian tubes was sufficient to justify their removal; and, moreover, "that he had never seen anything supporting the opinion that disease of the Fallopian tubes occurs with anything approaching the extraordinary frequency with which, by some, it is alleged to occur."

Tumors of the round ligaments, fibroid in character, have been in a few instances diagnosticated and submitted to successful treatment by laparotomy.

Up to a period of twenty years ago, operations for the removal of fibroid tumors of the uterus were rarely designedly performed. As a rule, the surgeon was confronted with these growths as the result of a mistaken diagnosis, and the operation was more frequently abandoned than completed. Such operations, however,

gave knowledge and encouraged premeditated efforts, until they have become in a measure established as a justifiable surgical procedure. Unfortunately, so great has been the mortality that, at this time, some hesitation exists in the minds of surgeons with regard to its performance except in the most favorable cases.

Without doubt, many patients, the subjects of uterine myomata, are permitted to drag out a weary existence of discomfort and suffering for want of surgical interference. On the other hand, some have been hurried to an untimely end through such interference. A careful study of the results of operations, Schroeder states, leads to the conclusion "that, while ovariotomy may now be looked upon, except as regards possible advance in minute details, as a closed chapter, myomotomy, on the contrary, stands exactly in the opposite position."

Leaving the consideration of the female organs of generation contained within the pelvic cavity which have been subjected to operation by abdominal section, we pass through this gateway into the general cavity. Here we find the most brilliant achievements of modern surgery accomplished under the protecting ægis of antiseptic methods. It is quite true that some of the initial operations were performed before the era of asepsis; but they were very rare, and performed usually through errors in diagnosis.

In the order of time, operations for removal of the spleen follow those of the ovary, the first premeditated operation dating from 1826. Three conditions have been described by observers as indicating surgical interference:

1. A change in the normal position of the organ, giving rise to the movable or wandering spleen.

2. The organ in a state of hypertrophy, due usually to malarial influences, forming the ague-cake so well known in certain sections of our country.

3. Cystic degeneration, associated, as a rule, with leukæmia.

Of these varieties the first and second are most amenable to successful treatment by laparotomy, while operations in cases of the third form—the leukæmic spleen—have been followed almost universally by fatal results. The explanation of this is to be found in the condition of the blood, and not in inherent difficulties in the operation itself. Further investigations are necessary to determine the relation between leukæmia and the cystic degeneration of the spleen, in order to avoid, if possible, by preliminary constitutional treatment, the fatal results attending surgical interference.

Of thirty cases of splenectomy reported by Credé up to 1881, twenty-one died. Of the twenty-one cases sixteen were leukæmic, and in all death followed. In the nine successful cases of removal of the spleen, four were hypertrophied, two movable, two cystic, and one normal and free in an abscess of the peritoneum.

In a very able paper read before the American Surgical Association at its meeting in April, 1885, Dr. S. W. Gross reported two hundred and thirty-three cases of extirpation of the kidney, with a mortality of 44.63 per cent. Of these cases of extirpation, one hundred and eleven were by the lumbar incision, with a mortality of 36.93 per cent., and one hundred and twenty were by the ventral incision, with a mortality of 50.83 per cent. With this statement he proceeds in his paper to discuss the causes of death after nephrectomy by the two methods, presents in systematic manner the various lesions which have been treated by operation, with the percentages of mortality in each, classifies the operations, and concludes with the formulation of certain propositions for discussion based upon the analysis and careful study of the cases collated. These propositions are so complete that they may be said to present in a concise manner the rise and progress of the surgery of the kidney up to the date at which they were presented, and at the same time to furnish a guide to the performance of operations upon that organ.

Since the presentation of this paper in April, 1885, Dr. Gross has added, up to this date, one hundred and three cases to those reported at that time, and has kindly placed at my disposal the following information derived from their analysis and study. In the three hundred and thirty-four cases there were two hundred and six recoveries and one hundred and twenty-eight deaths, giving a mortality of 38.32 per cent. In one hundred and seventy-six of these cases the operation was performed by ventral incision, with ninety-five recoveries and eighty-one deaths, giving a mortality of forty-six per cent. In one

hundred and fifty-eight cases the operation was done by lumbar incision, with one hundred and eleven recoveries and forty-seven deaths, a mortality of thirty per cent. The results obtained in the one hundred and three additional cases give a decreased general mortality of 6.31 per cent.,—a decreased mortality for ventral operations of 4.83 per cent., and a decreased mortality for lumbar operations of 6.93 per cent. These results show that the death-rate has been decreased by the increased experience of the operators. He further states that the new cases add confirmatory evidence of the correctness of the conclusions stated in his paper above referred to, and which are accepted by all writers on the subject.

When it is remembered that up to twenty years ago premeditated operations upon the kidney were not considered, and that the tapping of renal cysts and abscesses was performed usually without knowledge of the organ involved until—possibly in abscess—the presence of a renal calculus disclosed the fact, and when we further reflect that up to that time all renal tumors removed by abdominal section were so done through error of diagnosis, we cannot but express surprise at the rapid development of the surgery of this organ.

The traditional dread of the results following the infliction of injury upon the peritoneum found its fullest exemplification in the treatment, in days gone by, of the liver, and thus it was always considered necessary to shut off the abdominal cavity by the formation of adhesions between the liver or gall-bladder, prior to tapping, in cases of cysts or abscesses of the former, and dropsy (when recognized) of the latter. This was done by carrying the incision to the peritoneum and packing the wound so as to excite inflammatory action. Later, tapping was performed without the danger of the passage of any of the contents of cyst or abscess into the abdomen. In abscess of the organ, especially if superficial, these adhesions are usually formed, and tapping or incision is rendered safe. In the treatment of hydatid cysts, at this day, it is regarded desirable to form adhesions between the liver and abdominal walls by packing the wound with iodoform gauze, and, if the cyst is deeply situated, dividing the hepatic tissue with the Paquelin cautery.

Wounds of the liver—punctured, lacerated, or gunshot—are chiefly dangerous by reason of the great difficulty presented in controlling hemorrhage in parenchymatous tissues. Abdominal section may in such cases be performed, catgut sutures introduced, and the Paquelin cautery or the aseptic tampon of iodoform gauze used, as advised by Dr. N. Senn. In cases of extensive subcutaneous lacerations or rupture of the liver, it occurs to me to suggest that temporary compression of the hepatic artery and portal vein, by means of long-handled padded forceps carried through the abdominal wound, may be of service in controlling hemorrhage.

Operations upon the gall-bladder had their beginning through errors in diagnosis, the distended sac being mistaken for an abscess or cyst of the liver, and being opened by tapping and incision. Some of these operations were reported as early as 1733, in which gall-stones were removed through the fistulæ. In 1867, Dr. John S. Bobbs, the brother-in-law of the distinguished Simon Cameron, of this State, performed an exploratory laparotomy, opened a distended gall-bladder, removed fifty gall-stones, sutured the incision in the sac, and closed the abdominal wound. The operation was followed by recovery of the patient,—the first operation in which cholestotomy was performed without the formation of a biliary fistula. In 1878, Dr. Marion Sims, then residing in London, performed likewise an exploratory laparotomy, incised a distended gall-bladder, and removed twenty-four ounces of fluid and sixty-six stones; the walls of the cyst were retrenched and attached to the abdominal wound, forming a biliary fistula. Sixteen stones were found in the gall-bladder at the autopsy, which was held nine days after the operation. Although biliary fistulæ had followed simple tapping and incision of distended gall-bladders, yet this was the first premeditated operation of the kind. The first operation performed with design was that of Kocher, of Berne, Switzerland,—cholecystotomy, with the formation of a fistula,—in 1878. Excision of the gall-bladder (cholecystectomy) was first performed by Langenbuch, of Berlin, in 1882. The formation of a new communication between the gall-bladder and the duodenum (duodeno-cholecystotomy), or between the gall-bladder and the transverse colon, as practised by Winiwarter in 1882, may be performed, as its feasibility

has been demonstrated by the operation of Winiwarter and confirmed by Dr. Gaston, of Atlanta, Georgia, through experiments upon dogs.

The indications for operations upon the gall-bladder by abdominal section have been well established.

Dr. Ohage, of St. Paul, Minnesota, reports in a recent paper (*Medical News*, February 19 and 26) fifty cases of cholecystotomy, with formation of fistulæ, up to date, with thirty-nine recoveries and eleven deaths,—a mortality of twenty-two per cent.; five cases of cholecystotomy without biliary fistulæ, three recoveries and two deaths,—a mortality of forty per cent.; and nine cases of cholecystectomy, with eight recoveries and one death,—a mortality of eleven per cent. In his tables Dr. Ohage has omitted (I do not know whether intentionally or not) the case of cholecystotomy performed by Dr. Keen and reported to this Academy about two years since, and the case of cholecystectomy performed incidentally by Dr. S. W. Gross when operating by ventral incision for extirpation of a tumor of the kidney.

It is not within the scope of this paper to discuss the question, now attracting the attention of surgeons, with regard to the relative merits of the two operations, cholecystotomy and cholecystectomy. It may be said that the decision of the question in the future will undoubtedly be influenced by the consideration of physiological relations and pathological conditions as well as by the results of operations.

Up to this period, the only pathological conditions of the pancreas which have been subjected to surgical treatment have been cysts due to obstruction of the duct. Of these a few cases have been reported,—one by Dr. Bozeman, in which a cystic tumor of the pancreas containing twenty pints of fluid was removed, abdominal section having been performed in the expectation of finding an ovarian cyst. The pedicle, an inch in length, was ligatured, and then divided. The patient made a successful recovery. Simple tapping and tapping and drainage, with suture of the cyst to the abdominal wall, have been performed in other cases with successful results. Carcinoma of the pancreas occurs possibly more frequently than cystic degeneration, and is not regarded at this time as amenable to treatment by surgical procedure, owing to the implication, as a rule, of important adjacent structures and the difficulties to be encountered in dealing with hemorrhage from the large blood-vessels which are in intimate relation with the organ. As Dr. Senn correctly states in his address in surgery delivered May, 1886, before the American Medical Association, the surgery of the pancreas belongs to the future. He, of all others, has contributed most to clear the way for this advance through the elaborate and extended experimental investigations conducted upon animals, the conclusions deduced therefrom having been presented in his very able paper read before the American Surgical Association in April, 1886.

Of all the operations performed upon the abdominal cavity, it may be correctly said that none exceed in brilliant achievements those performed upon the stomach and intestinal tract. The recital of the successful results obtained in the few reported cases of incised and gunshot wounds of the intestines treated through laparotomy is sufficient proof of this statement. In so short a period has this great advance been made that we may almost count the time by months. In contemplating this subject, who can avoid reflecting upon the great results which will follow in the treatment of gunshot wounds of the abdomen when, in the future, armies come in conflict, and to what an extent the surgical history of our late war would have been changed?

The fistula which followed the gunshot-wound of the stomach in the case of Alexis St. Martin demonstrated the feasibility of accomplishing the same result by operation, and gastrostomy has become an accepted operation in cases of stenosis of the œsophagus. Gastrotomy, or incision of the stomach, has been performed for the purpose of removing foreign bodies from the organ. Professor Loretta, of Bologna, Italy, has performed gastrotomy for the purpose of overcoming by forcible digital dilatation stenosis of both the cardiac and the pyloric orifice. Success has followed these attempts.

Perforating ulcer of the stomach has been successfully treated by excision, and gastrorectomy is advised in such cases.

The successful results achieved by Billroth in his cases of excision of the pylorus (pylorectomy) for malignant disease have proved not only the feasibility but also the justifiability of the operation, when

performed in the early stage of the disease. In cases in which pylorectomy is not possible by reason of the extent of the disease, temporary relief may be afforded by the formation of a communication between the stomach and upper portion of the duodenum or jejunum,—gastro-enterostomy.

Operations upon the duodenum and jejunum, having in view the formation of permanent fistulæ for the direct introduction of food into the intestine, have been performed, and have been justly characterized as unnecessary and unjustifiable.

Beginning with the early operations of Littré and Amussat upon the colon for obstruction (colotomy), and ending with the latest suggestion for the employment of laparotomy in treating pathological conditions of the intestines,—resection in cases of perforation due to ulceration of Peyer's patches in typhoid fever,—we find that the field of operation has expanded so as to include a number formerly regarded as beyond the resources of surgical art. These embrace, as recorded by Dr. Senn, subcutaneous laceration of the intestines, intestinal obstruction due to intussusception, to enteroliths, to non-malignant cicatricial stenosis, volvulus, torsion, internal hernia, and strangulation by cicatricial bands.

Enterectomy, or excision of a portion of the intestine, has been performed in a number of instances, with the most remarkable success, for gangrene, wounds, and other pathological conditions. Koeberle's extraordinary case, familiar to you all, in which six feet of the intestine were removed, indicates to what extent enterectomy may be successfully performed.

In passing judgment upon the suggestion of resection in intestinal perforation in typhoid fever, we must remember that many of the operations upon the abdominal cavity now regarded as legitimate and firmly established were a few years back regarded as equally impracticable, if not absurd.

To complete the list of conditions amenable to treatment by abdominal section, it is necessary to add to those stated above tumors of the omentum, tumors of the mesentery, retroperitoneal tumors, ascites, acute tubercular and chronic peritonitis by laparotomy and local treatment, typhlitis and perityphlitis, and rupture of the diaphragm with hernia.

I am not unmindful of the fact that in this somewhat disjointed paper I have given but a faint outline of the marvellous achievements accomplished in the surgery of the abdomen within the past few years. Yet I may hope that some good may follow,—that the time has not been misspent in simply calling attention to the subject. Knowledge upon this subject is daily increasing, facts are being established, and confirmatory evidence adduced. While much has been accomplished, much remains to be done. Time must be given to the more careful study of symptoms, in order that our methods of diagnosis shall be perfected. The limits of diagnostic laparotomy must be narrowed by the acquisition of diagnostic skill.

Calm judgment must take the place of blind enthusiasm in the determination of indications for operative interference, and, above all, honesty of purpose must guide the hand of the operator. The severe condemnation of the profession must be placed upon the indiscriminate performance of operations upon the genital organs of hysterical females, as well as upon the proposal to spay all insane women, so that the progress of abdominal surgery shall not be retarded or its good repute tarnished. The morbid desire for notoriety must not be gratified at the expense of suffering and confiding humanity.

The great advances in surgical art impose upon the surgeon of to-day higher duties and greater responsibilities. A few years ago he could, with undisturbed conscience and calm mind, watch with folded arms the progress to the end, of certain conditions with which to-day he must deal, not too soon, nor yet—equally, if not more important—too late, under the guidance of sound judgment, and with the knowledge which increasing experience and careful investigations have so liberally provided.

THE IRRITABLE HEART AND THE DEPRESSED HEART.

BY HENRY SALZER, M.D.,
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"THE irritable heart" has been the subject of frequent contributions to medical literature since Da Costa's classical description of this condition in 1871.

The symptoms are "nervous palpitation," either alone or in combination with shortness of breath, especially on ascending stairs or climbing heights; certain neurasthenic phenomena, as dizziness, sick headache, numbness in one or more limbs, dragging or compressing pains in the region of the heart, back, hips, or legs; sleeplessness in spite of great fatigue, and such-like complaints. Certain objective signs, as rapid, irregular pulse, forcible, apparently hypertrophic apex-beat of the heart, often with slight concussion of the entire cardiac region even extending beyond the mammillary line, are accompanying symptoms. The area of heart-dulness is, however, normal, and other physical signs of cardiac disease are absent. Neither this strong apex-beat nor the pulse, varying from small and weak to hard and jerky, indicates increased heart-pressure. In fact, the pulse at the wrist is weakened, and can be made to disappear completely by raising the arm to a perpendicular position. The forcible apex-beat and the strong pulse are produced by disordered innervation of the heart and the arterial walls, causing apparently spastic contractions. Which of the nervous apparatus connected with cardiac innervation is here primarily affected, it is impossible, in the present state of knowledge, to determine.

The palpitations attending Basedow's disease, affections of the coronary arteries, or degenerative changes in the heart, are easily differentiated from those due to irritable heart, and are hence left out of consideration here.

The remaining organs of the body present nothing peculiar. The kidneys appear healthy, but secrete irregularly. At times the urine is scanty and rich in urates. Most frequently, however, the urine is profuse, pale in color, and of low specific gravity. The skin, especially about the face, neck, and shoulders, is often thickly covered with acneiform eruptions. The bodily temperature inclines to become elevated after the slightest disturbances, catarrhs, etc. Hands and feet tend to manifest sensations of heat rather than the contrary.

The following are generally specified as causes of this condition: hereditary nervous organization, exhausting diseases and hemorrhages, and anæmic conditions otherwise produced; mental and physical over-exertion. (It was in soldiers during the late civil war that Da Costa first thoroughly studied this condition.) The abuse of stimulants—alcohol, coffee, tea, and tobacco—and the influence of various poisons must also be included among the causes.

In my experience the combination of symptoms above described has been much more frequently met in young persons than after middle life. After the age of forty the irritable heart is comparatively rare, but, especially in males, a different train of symptoms present themselves which will be described below. The irritable heart is most frequent in young men from seventeen to twenty-five years of age. Here the specific causes are: in one class of cases great anxiety in the performance of duty, over-exertion of vital powers, sedentary occupation in crowded apartments, etc.; in others, ascetic repression of the natural desires and passions, masturbation, or the apprehension created by reading popular works upon the subject and the consequent anxiety with regard to connubial capacity; in others still, defiance of all the rules of health, rapid eating of large quantities of indigestible food, or drinking excessive quantities of various fluids; in many, reflex neuroses from nasal, pharyngeal, or gastric catarrhs, increased by excessive smoking of tobacco; in still others, intemperance in the use of alcoholic liquors, or venereal debaucheries; and probably in most cases a number of these causes combined are responsible for the condition described.

Young girls suffering with chlorosis, anæmia, digestive disorders, or genital disturbances may likewise present the symptoms of irritable heart.

Let these youthful individuals alter their mode of living; let the overtaxed clerk or mechanic change his occupation for one less confining or exacting, or adopt a country life; let the masturbator cease his degrading practices and become, in consequence of rational treatment and earnest encouragement, a proud husband and father; let the gourmand, the sot, and the debauchee alter their mode of living and become temperate, well-behaved, and regular in their deportment; let the chlorotic or hysterical girl be converted by a happy marriage into an assiduous housewife and fond mother,—and the phenomena of irritable heart rapidly disappear and a condi-

tion of good health is re-established. All subjective complaints now cease; the pulse becomes full, slow, and regular; the apex-beat is easily perceptible in its normal situation, and all the heart-sounds are normal; the complexion becomes fresh and rosy, a general plumpness replaces the appearance of malnutrition, and a sense of comfort and well-being takes the place of the morbid irritability of the system.

Few can maintain this condition of health, however, throughout life. Persons of vigorous constitution and active habits may be able to absorb, transform, and again get rid of an excess of solid and liquid food without injurious results; others, by habitual restraint and moderation in eating and drinking, avoid the dangers to which most persons subject themselves by overtaxing their assimilative organs and vascular system. I know a banker who keeps well nourished and in excellent health upon a daily allowance of two ounces of meat, a few spoonfuls of grits, two to three ounces of bread, and a half-pint of fluid (coffee, tea, milk, and water included). In summer a little fruit and about half a pint of fluid are added to the above allowance. This gentleman performs from twelve to fifteen hours of hard mental labor every day upon the slender fare mentioned.

Such examples of moderation or self-denial are, however, rare. The majority of those who formerly suffered from irritable heart, but who regained good health, remain in this condition only until the youthful resistance and elasticity become weakened and relaxed at the entrance into the middle period of life. At the age of forty and upward, increased cares and responsibilities, sickness, the habit of eating and drinking more than the comparatively inactive body demands, produce symptoms which at first view seem to indicate a return of the irritable heart from which the patient suffered twenty years before. The family physician is sought for, and the burden of complaints recited to him: palpitation, constriction of the chest, shortness of breath, especially on ascending stairs or heights, neurasthenic dyspepsia, dizziness, numbness in the limbs, sick headache, dragging pains in the cardiac region, the back and hips, stiffness of the back and limbs on awakening. The pulse is increased and irregular, the skin dull and more or less insensitive, yet easily irritated. But if the physician compares the present condition of his patient with that of fifteen or twenty years before, as noted in his case-records, he will become sensible of marked differences. The pulse is increased in rapidity, but, in spite of the patient's appearance of robust health, is weak, small, and compressible. The apex-beat of the heart is not at all perceptible, even in forced expiration and with the body bent forward. A slight concussion at the base is all the evidence of heart-impulse that even the most careful physical examination can elicit. The area of heart-dulness is normal and the valvular sounds pure, with the exception perhaps of a more or less pronounced accentuation of the second pulmonary sound.

In spite of the relatively small pulse, the propulsive power of the heart remains good; elevation of the arm does not affect the force of the pulse at the wrist.

The quantity of the urine is diminished relatively to the amounts of fluid ingested. The specific gravity is increased, ranging from 1025 to 1040. The urine is free from albumen and sugar, but is rich in urates and probably oxalates. The skin is dull (bilious); brownish spots are often found upon the hands, and at the lower portion of the tibia and near the ankles may be seen those rusty-colored pigmentations—from the size of a pin's head to that of a dime—to which Oertel first called attention as a sign of overfilling of the capillaries and veins of the subcutaneous connective tissue. Occasionally there is a tendency to moist eczemas, and the mucous membranes, especially the conjunctivæ, are apt to become chemotic.

The temperature is abnormally low. On awaking in the morning and before rising, the sublingual temperature, although the instrument remains in the mouth for fifteen minutes with the bulb pressed close to the root of the tongue, is frequently not above 96°, 96.5°, or 97° F. The patients are more likely to complain of cold than of heat. They are not actually sick, but constantly complain of a sense of discomfort or *malaise*.

In brief, these symptoms may be recapitulated as follows: *The apex-beat of the heart not perceptible, or perceptible only under the most favorable conditions; weak, rapid, and often irregular pulse, easily in-*

creased to one hundred or one hundred and twenty beats per minute upon the slightest exertion; difficulty of breathing, increased by slight exertion; often hyperidrosis, an abnormally low morning temperature, with dryness of the mouth and tongue. Relative decrease in quantity and high specific gravity of the urine, the characteristic pigmentations and morbid disposition of the skin, subjective complaints of a neurasthenic character, diminished sexual desire, and dragging pains and stiffness in the back and hips on awaking. To this collection of symptoms, it seems to me, the designation of *the depressed heart* may appropriately be given.

(To be continued.)

REPORT ON THE PROGRESS OF OTOLOGY.

BY CHARLES H. BURNETT, A.M., M.D.,

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DEFECTS OF HEARING IN RAILWAY-EMPLOYEES—RELATION OF SAME TO THE SAFETY OF THE TRAVELLING PUBLIC.

DR. LICHTENBERG, of Buda-Pesth, insists upon the importance of good hearing in train-hands of railroads, and he also shows that locomotive engineers and firemen are especially liable to ear-disease from the exposure incident to their work (*Archiv f. Ohrenheilk.*, Bd. xxiv., 1886). He then calls attention to the numerous acoustic signals and the few optical signals.

[This would hardly hold good in some parts of this country, where the optical signals predominate.—REP.]

Of two hundred and fifty railroad-hands examined by Lichtenberg, ninety-two (or 36.8 per cent.) were affected by some aural disease. Thirty-two cases were of a catarrhal form, three times an affection in the labyrinth was found, and thirty-six times the difficulty lay in the external auditory canal. He then referred to the statistics of railway-accidents, and maintained that, in view of the importance of acoustic signals and the frequency of their occurrence, and in view also of the numerous aural imperfections in the railway-hands, railway-accidents were not improbably directly the consequence of defective hearing in the employees.

THE EFFECTS OF PILOCARPIN UPON THE MUCOUS MEMBRANE OF THE TYMPANIC CAVITY.

W. Kosegarten, of Kiel, has found the use of pilocarpin beneficial in cases of dry catarrh of the middle ear complicated by labyrinth-affections (*Archiv f. Ohrenh.*, xxiv., 1886). The treatment must be prolonged for at least six weeks, if benefit is to be obtained, and the most successful cases have been those treated for three months. As a rule, an injection daily of about one centigramme of pilocarpin, except on every seventh day, was given in the cases treated the longest time. It was observed in cases with transparent membrana tympani, and even in one case with a large perforation in the membrane, that the injection of pilocarpin was regularly followed by intense congestion of the mucous membrane of the drum-cavity, and in some instances secretion ensued in the cavity of the tympanum. This process favors a loosening or softening of the stiff tissues and adhesions in the drum, and hence the conducting apparatus is made more vibratile. It is even claimed that exudations have been seen to become absorbed under this treatment, and the membrana tympani assume its normal color and transparency.

HEMORRHAGIC OTITIS IN BRIGHT'S DISEASE.

In the case related the aural disease was preceded by paraplegia (Dewèvre, *Lyon Médical*, October, 1886, and *Annales des Maladies de l' Oreille*, December, 1886). Intense pain was the first aural symptom. The discharge, at first red, became serosanguinolent, and then purulent; the mucous membrane of the tympanic cavity became intensely congested, the mastoid region red and œdematous, but not swollen. The patient recovered, but the hearing remained impaired. During the otorrhagia there was also epistaxis. Attention is drawn to the fact that this form of aural affection is sometimes seen in Bright's disease. Reference is made to the observations of this occurrence in Bright's disease reported by Rayer, Lecorché, and Fournier; later, by Rosenstein and Dieulafoy (Thesis of Pissot, 1878). Trautmann (1879), Auvert (Thèse de Paris, 1879), Alibert (Thèse, 1880), and Domergue (Thèse de Paris) have reported cases of similar aural complications in Bright's disease.

AURAL DISEASES IN DIABETES MELLITUS.

Schwabach observed a case of otitis media suppurativa in a diabetic patient, in whom an artificial perforation of the mastoid was entirely successful. The patient died two years later of apoplexy, after the

fistula in the mastoid had entirely healed and all aural symptoms had subsided (*Deutsche Med. Wochenschr.*, No. 52, 1885; *Archiv f. Ohrenh.*, Bd. xxiv., 1886). The opinion is expressed by Schwabach that this operation cannot be entirely rejected in the case of diabetic patients, as held by Kirchner and Kuhn, but should be attempted if it seems to offer the only chance of saving life in dangerous cases.

DETERMINATION OF IMPORTANT TOPOGRAPHIC RELATIONS IN THE TEMPORAL BONE BY THE EXTERNAL FORMS OF THE SKULL.

Dr. Otto Körner, of Frankfort-on-the-Main, has endeavored to show, from his examination of sixty skulls, that it is possible from the external configuration of the skull to determine some of the important features of its internal structure (*Archiv für Ohrenheilk.*, Bd. xxiv., p. 67, 1886). He gave the name of "cranial index" to the result obtained by dividing the distance between the root of the nose and the most prominent point in the occiput by the distance between the parietal protuberances. This index varies between 1.55 cm. in dolichocephalic crania and 1.076 cm. in brachycephalic crania. It appears, from a table of measurements, that the floor of the middle fossa of the skull in the dolichocephalic crania lies higher above the external acoustic meatus than in the brachycephalic.

In regard to the transverse sinus it is shown that in brachycephalic crania on both sides it lies, on the average, farther outward and projects farther into the mastoid process than in dolichocephalic crania. Regardless of the form of the cranium, the sinus lies, on the average, farther outward on the right than on the left side.

The thickness of the sinus-wall was equal in ten per cent., thinner on the right side in seventy-seven per cent., and thinner on the left side in thirteen per cent.

Practically, in respect to the artificial opening of the mastoid process, it follows that the smaller the cranial index the farther forward the opening in the mastoid must be made.

In adult skulls with an index of 1.30 cm. and less, the operation must be performed, if possible, in front of the line of attachment of the auricle, especially when the right antrum must be reached. In the new-born and very young children, as is well known, the transverse sinus does not lie in an exposed position.

[This also shows that it is always safe to operate as nearly as possible through the posterior wall of the external auditory canal in attempting to reach the mastoid antrum.—REP.]

SPONTANEOUS PERFORATION IN THE MASTOID PORTION OF THE TEMPORAL BONE.

Dr. Huntingdon Richards, of New York (*New York Medical Record*, December 11, 1886), has reported a singular case of "mastoid disease," terminating as indicated in the caption, in a man 26 years old. The patient took cold, and on the third day after the initial chill pain in the ear was felt. That night the ear began to discharge. He was not seen at first by Dr. Richards, but was treated by some one who diagnosticated a perforation in the membrana, and who prescribed "drops" for the ear. About two weeks after the first attack he was seen by Dr. A. H. Buck, "who found a slight prolapse of the upper wall of the external auditory canal, the membrana tympani red and swollen, but not markedly bulging, and having a small perforation." The patient complained of throbbing in his ear and intermittent otalgia. He was referred by Dr. Buck to Dr. Richards, with the advice to immediately perform paracentesis of the membrane and a Wilde's incision of the mastoid integument, "with poulticing and frequent use of the Angelo douche, as a means of obviating if possible the necessity for drilling the mastoid." This was done, but was not productive of any change in the appearance of the membrana or in the auditory canal. A discharge of thick pus continued, and a gravitation douche was substituted for the Angelo, a strong solution of boric acid was added to the water, and the canal was to be syringed every hour. Two days later the condition of the patient was unaltered, and three days still later there had been pain in the ear, relieved, however, by the douche. The canal was now found less swollen, but the discharge was still profuse; the wound over the mastoid was discharging but little. This was rubbed with the solid stick of nitrate of silver "for counter-irritation," and the membrana tympani was again freely incised. The ear then felt better, and the hearing seemed to improve a little. The douching was continued. Three days later the condition was the same, and some pain was reported; still three days later no pain in the ear, though discharge continued; the

membrana was less swollen, and the position of the perforation, which was 1.5 mm. in diameter, was diagnosticated as just back of and above the tip of the manubrium.

Four days later the wound over the mastoid had healed, and there was no redness of the integument and no increase of tenderness on pressure over this region. There had been no pain in the head, nor earache, for four days. The opening in the membrana tympani, however, seemed too small for perfect drainage or cleansing of the drum-cavity, and another thorough incision in the membrane was made, being carried from the perforation upward and backward to the periphery of the membrane. The patient at this time called attention to "a slight swelling situated back of the mastoid process, and over its point of junction with the occipital bone." This spot gave no pain, but was tender on pressure.

Two days subsequent to this discovery, it was found that the incision in the membrana tympani had healed completely and firmly. The general condition of the patient was good, and he had no pain in his head, nor earache. The swollen spot behind the ear, however, was more tender on pressure, but not painful. Careful palpation seemed to justify the suspicion that deep-seated fluctuation could be detected, but, the suspicion being not well founded, apparently, the patient was permitted to return to his work. Three days later the condition seemed unchanged. The swelling behind the ear was to be painted daily with tincture of iodine. In the course of two days the patient came complaining of "decided pain in the side of his head and in the region of the aforesaid swelling." The latter had increased in size, being now about an inch and a quarter in diameter, and palpation revealed undoubted fluctuation. Palpation, furthermore, caused pus to suddenly well out of the auditory meatus. It was found, upon inspection, that this pus came through the old hole in the centre of the drum-membrane. The abscess over the mastoid was opened, the knife passing down fully one inch through to the bone, and a fairly large quantity of blood and pus escaped. Syringing the abscess caused some of the fluid to escape from the external auditory meatus, and also occasioned severe pain in his head, but no dizziness. Continuance of hemorrhage led to stuffing the wound and abscess-cavity with lint; poultices were ordered, and douching the ear was continued.

The next day the patient complained of frontal headache and nausea. Subsequently there was some vomiting, the temperature rose to 100.2° F., and the pulse was 92; no pain in or about the ear. All the symptoms improved excepting the nausea and frontal and occipital headache, which still continued to some extent. The depth of the wound down to the bone was now half an inch, and by prolonged probing in the upper part of the wound an opening into the bone half an inch deep was found. Weak solutions of bichloride syringed through this opening in the bone escaped through the nostrils and were felt in the tympanic cavity. The hearing now improved from half an inch to nine inches for a watch, and the temperature and the pulse became lower; there was also less headache. Syringing the wound in the same way the next day did not cause fluid to pass through the nares, but the patient asserted that it was felt in the ear. Syringing increased the discomfort in his head, and the patient attributed all his headache for four days to the syringing done at the operation.

It is suggested by Dr. Richards that, considering the course and depth of the bone sinus, it may not be impossible that there was some exposure of the dura mater.

The location of the sinus in the bone seemed, by careful measurements, to have corresponded "pretty closely to the opening of the mastoid foramen leading into the lateral sinus." It is also suggested that the opening in the bone through which the syringe was inserted might have been the mastoid foramen pathologically enlarged, or a gap similarly formed in the masto-occipital suture. In any case, the cancellous tissue in this case extended very far backward.

In the course of two weeks more the mastoid wound had entirely healed, and the membrana tympani showed that it was returning to a normal condition. It was thought by Dr. Richards that "a more active and prompt treatment at the beginning of the attack probably would have saved the patient much pain, and perhaps might have cut short the pathological process which subsequently developed into such a serious condition."

(To be continued.)

TRANSLATIONS.

RESEARCHES ON THE MICRO-ORGANISMS OF THE MOUTH.—M. Vignal publishes in the *Archives de Physiologie* the first part of a memoir on the micro-organisms of the mouth. In this memoir he proposes to set forth the action which these micro-organisms may have on a series of simple alimentary substances, with the object of investigating the influence exerted by the gastric and pancreatic juices and the bile on these micro-organisms, in order to ascertain from this what becomes of them when carried by the food and saliva into the digestive tube. A great number of micro-organisms inhabit the mouth in the normal state; a still greater number may be found there accidentally introduced either by the food or by the inhaled air. M. Vignal endeavored by using a few precautions to get rid of these micro-organisms. He gathered them only in the morning, after having brushed the mouth the evening before with sterilized water, and with a brush likewise sterilized in steam at 120° C. In this way the micro-organisms which live only in the remaining alimentary substances were eliminated. To know the number that inhabit the mouth the microscope will not suffice, as, on the one hand, many of them so much resemble one another that it is difficult to recognize them by sight alone, while, on the other hand, a micro-organism may be more or less long and thick, although belonging to the same species. Hence the necessity of cultivating and isolating them, and of forming pure cultivations. This the author did.

He found in the buccal coating and in the dental tartar eighteen different species of micro-organisms, and from these he succeeded in isolating seventeen. The eighteenth, which he did not succeed in isolating, was the *spirochete denticula*. The author, like his predecessors, did not succeed in finding a favorable medium for the cultivation of this micro-organism. Of the seventeen species which he cultivated, M. Vignal found that sixteen were aerobic and one anaerobic. Three of these micro-organisms are micrococci, thirteen are bacilli, and one is a vibrion. Seven of them have already been described by different authors: they are the *bacterium termo*, Koch's potato-bacillus, *bacillus subtilis*, *staphylococcus pyogenes albus* and *aureus*, and the leptothrix. Three others have perhaps already been observed; the coccus "*a*" of the author appears to have been seen by Miller in dental caries; the bacillus "*e*," perhaps described by Chyre and Cheshire under the name of *bacillus aluci;* and, finally, the bacillus "*e*," which is perhaps the *bacillus ulna*. But, as the descriptions which authors have given of these three micro-organisms are not sufficiently precise, M. Vignal abstains from giving their names to those he had seen.

In this first part of his memoir the micro-organisms which the author has met with are alone described, and he has given the description of them in different mediums of cultivation, in order that they may be recognized from the differential character presented by their cultivation. The author has tabulated the principal characteristics of the cultivation of these micro-organisms, in order that they may be easily detected by comparison. The memoir is accompanied with eight plates, which represent the aspects of these micro-organisms in the different mediums of cultivation, and the spots they form on gelatin. All these illustrations have been made on the same scale. Besides the plates, half-schematic figures are dispersed throughout the text, representing the aspect of culture-colonies in needle-holes in the peptonized gelatin contained in the tubes.

The first part of the memoir is, so to speak, but the introduction of a series of researches. For, in addition to the influence exerted by these micro-organisms on a few simple alimentary substances and the observation of the effect which the digestive fluids have upon the former, the author announces that he is about to begin researches concerning the micro-organisms in fæcal matter, and that he has already begun, in conjunction with M. Malassez (whose competence in pathological anatomy needs no comment), a series of researches on the action which these micro-organisms exert upon animals. When these researches, together with those which the author is making in collaboration with M. Malassez, shall have appeared, the results will be made known to our readers.

WHOOPING-COUGH.—A series of five cases treated with continuous inhalation of carbolic acid by means of a mask (worn from eight to twenty-four hours daily), with good results, is reported by Dr. Pick (*Deutsch. Med. Zeitung.*)

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EDITORIAL.

PREVENTIVE INOCULATIONS.

AT a recent meeting of the Epidemiological Society of London, Mr. Willoughby read an important paper upon the prophylactic treatment of certain infectious diseases by the practice of inoculation. Certain of the facts therein emphasized, though perhaps familiar in themselves, acquire increased significance from the manner in which they are associated and presented. The two characters by which a large class of diseases are distinguished from all others are, first, the spontaneous extinction of the morbid process within a limited, often definite, time; and, secondly, the immunity against subsequent infection, more or less lasting and complete, which follows the attack. These two phenomena have been regarded as closely related, but until lately no rational explanation has been suggested. Nevertheless, the whole scheme of protective inoculation rests upon them as a basis.

The first condition of such an inoculation is that the virus used should be derived, directly or indirectly, from the disease it is intended to avert. Cow-pox protects against smallpox only because no specific difference exists between these two diseases; vaccinia being in all probability, as stated by Mr. Willoughby, smallpox modified by being passed through the cow. The second condition is that the disease is one that does not recur. All non-recurring diseases are, or are presumed to be, bacterial. The converse of this, however, is not equally true, as some diseases, such as septicæmia and tuberculosis, run on indefinitely, while others, as diphtheria and cholera, confer no immunity against subsequent infection. In these, therefore, there can be no successful preventive inoculation.

The method of direct inoculation with the unchanged virus is open to the grave objection that, however great the immunity conferred and however small the risk incurred by the individual, the disease is unchanged and retains its infectious qualities. The practice of smallpox inoculation and of ovination have always been found to raise the total mortality from the respective diseases.

The next step in the evolution of the process is vaccination. Jenner's operation is as yet the only instance of the application of this method. But, as Willoughby suggests, there is no reason why some animal should not be found to play for the sheep the part played by the cow for man. In truth, Dr. Klein's experiments with the disease at a farm at Hendon, which he called "Cameron's disease," lead to the conclusion that it stands in the same relation to scarlatina as cow-pox to smallpox, and that it may be possible to employ it in the same way. If so, this would be "vaccination" in every sense except perhaps the etymological one.

The method of Pasteur, the so-called "method of attenuation," is open to the same objection as inoculation, with the yet more serious one added that, as it is impossible to standardize the attenuations, they sometimes fail to confer any protection whatever, and at other times they have caused the death of the animal experimented upon. For this reason they cannot safely be resorted to in man, nor indeed, except under certain circumstances, can they be employed by existing methods with sufficient certainty as to the result in the case of the domestic animals.

A fourth method consists in the inoculation of the products of the development of the bacilli without the bacilli themselves. Low forms of life, such as those concerned in the process of fermentation,

putrefaction, etc., as well as bacilli formed in the fluids from which they grow, are associated with chemical products such as sepsin, which give rise, after absorption into the blood, to the condition known as septicæmia. In some cases, when these are accumulated to a certain point, as in alcoholic fermentation, further development of the organisms is arrested. It has been suggested that something analogous to this occurs in the so-called zymotic diseases, and that this may be invoked to explain the extinction of the febrile process. This accumulation of chemical products could not, however, explain the subsequent immunity, since such products would be eliminated, if the patient survived, in the course of a few weeks at farthest.

The experiments of Dr. Salmon, of the United States Bureau of Agriculture, with swine-plague lead to the inference that the products of the development of the bacilli of any such disease so modify the constitution of the bioplasm of the tissue as to render it incapable of again affording a pabulum for the bacilli. Further, since cells to which a special character has since been imparted tend, as in the case of carcinomata and other neoplasms, to transmit it to those to which they give rise in the act of proliferation, this inability to support the growth of the particular bacillus may persist for many years. Since, however, they probably tend to revert to their original character, susceptibility is sooner or later reacquired.

This latest method promises results of incalculable importance and of the widest application to the prevention of the infectious diseases of man and beast. In its practical application it is necessary to identify the specific bacillus, find a medium suitable for its cultivation, and finally to determine its thermal death-point or remove it by the Pasteur-Chamberland filter. The process is wholly free from the objections to which first inoculations and attenuations are open, seeing that the phenomena induced are those of the action of a poison, whatever it may be, actually antagonistic to the disease.

VOLUNTARY SUICIDES BY CHILDREN.

WITHIN a week the coroner has been called to investigate the deaths of two children in this city, both of whom, in all probability, committed voluntary suicide. A doubt is implied because the exact circumstances attending the death of each will never be known, as the only witnesses present were children younger than themselves, but circumstances point strongly to suicide as the only explanation. The vital impulse is so strong in childhood, and the idea of death so repugnant at this period of life, that voluntary self-destruction by children seems to strike us with horror as a manifestation of a peculiarly abnormal condition of society. Such an occurrence would be impossible in a community normally constituted, where the burdens of life are properly proportioned and equally divided. The physician, philanthropist, and political economist are equally interested in the problem presented by these unhappy occurrences, in which the question of insanity evidently does not arise, not because insane people do not hang themselves or because chidren do not become insane, but because the form which insanity takes in children is not suicidal mania.

The details, as they appear in the daily papers, are briefly as follows. Annie N., a motherless girl, twelve years of age, who bore upon her shoulders, unassisted, the reponsibilities of housekeeping as well as the care of younger children, had committed some childish peccadillo for which she had reason to anticipate corporal punishment from her father, of whose ministrations her previous experience had inspired her with a lively dread. When the father returned

from his work he discovered not only that his supper had not been prepared by the child, who had expected a beating, but also that she had been—to all appearances, at least—so wicked as at once to escape his fatherly correction and to break up his *ménage*, by hanging herself to a door-frame in their miserable dwelling. Among the annals of the poor could any be more melancholy than this? A child, with the responsibilities of womanhood thrust prematurely upon her, and daily engaged in a dull round of work beyond her strength, whose only incentive to right conduct consisted in the promise of a "licking" if she failed to attain a standard arbitrarily established by a paternal government! Can we wonder that such a child should seek to escape at any hazard from the accumulated miseries of her existence? Her death-bed may find no chronicler like that of Little Nell or Poor Jo, but her wounds are dumb mouths which appeal directly to the heart.

The second case was clearly one of imitation. A little boy, thirteen years of age, in good health and usually cheerful, having been much interested in the accounts of the former suicide, went into the cellar of his residence, and, fastening a rope to a beam, adjusted a loop round his neck, and deliberately swung himself into eternity. For this death the morbid demand for cheap, graphic illustrations in flashy papers must be held responsible.

Many children who saw the pictures of the little girl dangling in the frame of the door, with the fatal rope around her neck, will be unable to shake off the horrid representation, which for them possessed a veritable fascination; and for months to come it may remain the ruling idea. It has been repeatedly noticed that among adults the published account of some novel method of suicide has been followed by many imitators of the original; and a similar explanation of some epidemics of crime has been frequently given.

A PLEA FOR THE BETTER VENTILATION OF CHURCHES.

OF all public buildings in civilized communities, churches are notoriously inadequately ventilated. Apparently, in the minds of architects health and comfort are considered of secondary importance when compared with the technical details of structure. A well-known professor of chemistry of this city used to declare that he could tell, simply by his olfactory sense, whether the persons whom he passed on the street on Sunday had been to church or not. With him the odor of sanctity represented something substantial, and was not a mere figure of speech. City churches, subject to overcrowding, are usually furnace-heated: too often the air for the flues is taken directly from the cellar, in which there may be several more or less objectionable sewer-connections. Country churches, which happily are not open to this criticism, are, on the other hand, kept closed during the winter months as tightly as possible in order to economize fuel. The result is partial asphyxia of the congregation, which leads to complaints of droning sermons and drowsy hearers. Under such circumstances the system is prepared for an attack of bronchitis or pneumonia, which may be lighted up on suddenly going from the heated and vitiated atmosphere to the cold air outside. Occasionally some one faints and has to be carried out; and a correspondent of a religious journal thinks that the sudden death of ministers in the pulpit is attributable to the impure air. The question of the ventilation of churches is certainly deserving of more attention than it seems to have yet received.

Dr. William Hunt, of this city, recently met with a serious accident by a wagon knocking him down on the street and causing fractures of his clavicle and humerus and other severe bodily injury.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE College of Physicians of Edinburgh has set a good example by taking steps to found a Research Laboratory, for the use, in the first place, of its own Fellows, members, and licentiates, and after them of other investigators. A scientific superintendent is to be appointed, at the modest salary of two hundred pounds a year. Meanwhile, the members of the Council of the College of Surgeons in London appear to be unable to make up their minds as to the disposal of the Erasmus Wilson bequest: the memorial to which I referred in my last letter must have shaken the determination of the most opinionated members, for the Council, at its last meeting, determined to spend the comparatively trifling sum of fifteen thousand pounds on building operations for the extension of the museum. It is stated, with suspicious ostentation, that this modest expenditure is not to be taken to mean that the gigantic scheme to spend the whole Erasmus Wilson bequest on bricks and mortar, plaster casts, wax models, and preserved specimens in bottles has been abandoned, but it is hardly likely that it will be revived in its original crude form. The University of Cambridge, which is by no means wealthy, has voted ten thousand pounds for enlarging the physiological laboratory, and the College of Physicians in London will probably apply the small income arising from the Croonian trust fund, which, owing to new dispositions, is now much more valuable than formerly, to the furtherance of clinical and therapeutical research, so that the College of Surgeons will not fail in its duty owing to any want of good example. The Society of Medical Officers of Health has presented a memorial to the Council, praying it to establish a laboratory for instruction and research in bacteriology. A laboratory for pathological chemistry is also very much wanted. Either or both could probably be maintained at a very small cost.

Charles Dickens is generally credited with having been the first to use the novel for the purpose of exposing faults in our social system. "Oliver Twist" and "Nicholas Nickleby" were not only novels, but, to parody a famous definition of history, philanthropy teaching by example. Modern English novelists in search of a social sensation have, during the last decade, frequently built up their plots on the lunacy laws. Several lawsuits which have resulted in verdicts in favor of persons alleged to be insane, who have obtained damages against physicians for signing certificates of lunacy without due care, have still further operated to produce a mass of opinion in favor of an alteration in the law. This influence has been powerfully reinforced by the anxiety exhibited not only by ordinary practitioners, but by the majority of alienists in this country, to be more securely protected from the serious danger to which all are now liable,—of being called upon by a recovered madman, or more often mad woman, to defend in a court of law the truth of certificates given perhaps many years earlier. A case of this character was recently decided in favor of the medical practitioner, but not until he had been put to very considerable expense in defending the action. Although he obtained a verdict without difficulty, it is now reported that the plaintiff has appealed. For three years in succession the government of the day has introduced a bill to amend the lunacy laws; in 1885 and 1886 the resignation of the government involved the disappearance of the bill; and, as the political future is very uncertain, it is difficult to feel very sanguine as to the fate of the two bills introduced into the House of Lords on February 7, as the amending bill provides that no person shall be received or detained as a lunatic except under an order signed by a judge of a county court, a stipendiary magistrate, or a justice of the peace; the judicial functionary chosen in any given case will be bound to give notice to the alleged lunatic that he has been petitioned to make an order, may have a personal interview with the alleged lunatic if he thinks it desirable, and must grant such an interview if the alleged lunatic demand it. The countersignature of the judicial functionary is intended as a safeguard to personal liberty, and was undoubtedly framed in the interest of alleged lunatics; yet the chief opposition has come not from the alienists or the medical practitioners, who would be glad enough to shift the responsibility on to the broader shoulders of the squire or the county-court judge, but from the Commissioners in Lunacy in the interest of lunatics; they have contended that the publicity inseparable from the judicial inquiry would have the effect of leading the friends of persons afflicted with mental disorders to conceal the fact, and retain them at home until the chances of recovery had vastly diminished. Prompt treatment by skilled physicians is of the utmost importance to the afflicted individual, and it is well known that the prognosis becomes more hopeless with every succeeding month, until after a year but little hope remains. The late Earl of Shaftesbury, the great champion of the oppressed, felt so strongly on this point that he resigned the chairmanship of the Board of Commissioners in Lunacy, a position which he had held for fifty years, rather than appear to lend any sanction to the bill. A concession to these objections appears to have been made in the bill just introduced, for it is provided that in cases where the judicial signatory has satisfied himself that it would be prejudicial to the alleged lunatic, or dangerous to the

public, he need not give the notice mentioned above to the alleged lunatic. The bill therefore practically leaves everything to the discretion of the judicial signatory, who may be guided by personal timidity, or by the medical opinions, or by the private influence of friends, but certainly not by knowledge. Other provisions of the bill will have the effect of gradually reducing the number of private asylums, for no new licenses are to be issued, and the public authorities will be encouraged to provide accommodations for private patients. The second bill, introduced at the same time, merely codifies the existing acts of Parliament.

The Lettsomian Lectures at the Medical Society of London were delivered by Dr. Langdon Down, the senior physician to the London Hospital. He took for his subject the mental affections of childhood and youth, and brought out many facts of much general interest. Dr. Down reiterated his opinion that the congenital idiots of the more highly developed races often resemble, in their facial configuration at least, certain of the races which occupy a lower step in the scale of civilization; that they have, for instance, resemblance to the Malays, Mongols, or Negroes. He considers that the observation of this resemblance will be of great use in making a correct diagnosis and prognosis. As a working classification, he divides cases of idiocy into the congenital, the developmental, and the accidental. In determining whether a case is to be referred to the first class or one of the others, he finds the "ethnic" peculiarities of great value, since, on the whole, the congenital cases give the best results and can be educated up to a certain point, whereas the accidental cases are most disappointing, though the prognosis at the first glance appears so much better. He has found that an instrumental labor has far less influence than a prolonged labor in producing feeble-mindedness, and that neither consanguinity nor disparity in the ages of the parents has any influence, while hereditary weakness is most powerful. Some good examples of "idiots savants" were well worth hearing, and will be not only instructive reading, but interesting and here and there amusing, when they are published in full.

Professor Greenfield, of Edinburgh, recently, in a very obscure case of acute brain-mischief, with perforation of the tympanic membrane on one side, diagnosticated an abscess in the anterior part of the sphenoidal lobe; at his request Mr. Caird trephined in the temporal region, found the dura mater tense, with absence of pulsation, lymph beneath the dura mater, and, finally, after passing a Graefe's knife directly inward for at least an inch, he hit upon the abscess and evacuated two ounces of fetid pus, using a pair of drainage-forceps to enlarge the wound; a drainage-tube was introduced and the wound dressed antiseptically. The patient, a young man, aged 26, had made notable improvement in twenty-four hours, and was almost quite well in a fortnight. On the same side as the abscess there was well-marked optic neuritis, which rapidly diminished after the operation, so that at the end of twenty-five days Dr. Argyll Robertson, who then examined the eye, could only say that the disk was a little pale and flat and not quite sharply defined at the margins.

A discussion on the diagnosis and treatment of cerebral abscess took place at the Glasgow Medico-Chirurgical Society on February 11 and 12, but does not appear to have added much to current knowledge. Dr. William MacEwen mentioned a case of abscess in the temporo-sphenoidal lobe upon which he had operated with success. Mr. Barker, who had another successful case (with Dr. Gowers) about three months ago, is reported to have stated that nearly all intra-cranial abscesses originating in ear-disease were in the cerebrum, and that nine-tenths of the cerebral abscesses were in the temporo-sphenoidal lobe. Such abscesses, though not very commonly met with, are not extremely rare: for instance, Professor Greenfield said he met with about one case a year in the Edinburgh Infirmary, and Dr. Coats said that the number in Glasgow was proportionate, so that probably this operation, which appears to present no serious difficulties to the surgeon, will soon become comparatively frequent,—more especially as the first five cases (treated by Barker and Gowers, Schondorff, Trückenbrod, Greenfield, and MacEwen) have been so successful. Altogether, there seem to have been twenty cases recently in which the cerebrum has been incised or partially excised, with three deaths, two from shock and one from septicæmia.

In a discussion on renal surgery which has recently occupied the attention of the Clinical Society for two nights, much prominence was given to the difficulty of diagnosis. Mr. Bennett, of St. George's Hospital, related a case in which a tumor in the renal region was freely laid open through the loin, and the finger entered what was apparently a disorganized kidney. The patient died of lung-disease six weeks later, when the wound was almost closed, and it was found that the kidney was quite intact and that the cavity opened was an abscess. Mr. Knowsly Thornton, who advocates an exploratory abdominal incision to allow both kidneys to be examined, and then a lumbar incision for the removal of the stone and for drainage, mentioned one case where, owing to the patient being stout, it was even then difficult to feel the stone. Mr. Bruce Clarke mentioned a case of abdominal aneurism closely resembling renal disease, and several speakers referred to the additional difficulty created by the frequent reference of pain or colic to the opposite side.

The Hunterian Oration at the College of

Surgeons attracted the usual large audience, and Mr. Savory, the President, discoursed with more than usual eloquence on Hunter and his share in the foundation of a scientific system of surgery.

The homœopaths have scored their first important victory in London. There has been for many years a small infirmary for consumption in Margaret Street. It would seem that attention has recently been drawn to the fact that two of the physicians practised homœopathy. A meeting of the governors was held, and a resolution was proposed inviting these two members of the staff either to resign, or the one to remove his name from the Homœopathic Directory and the other to sever his connection with the Homœopathic Hospital. An amendment in an opposite sense was moved and carried by twenty against seventeen. The two consulting physicians, the surgeon, and four out of seven of the acting physicians have resigned. It is stated that the amendment was carried by the aid of the votes of governors who have only qualified within the last few months, and that the majority of the Executive Committee will resign.

The quarrel at the Liverpool Hospital for Women has ended, for the present at any rate, Dr. Imlach, the member of the staff who had performed the operation of "removal of the uterine appendages" so frequently, having failed to secure his re-election at the recent annual meeting of the "subscribers, donors, governors, and friends" of the hospital. Both sides had been active in obtaining proxy votes, but Dr. Imlach only obtained one hundred and thirty-seven proxies in his favor, while the proxies on the other side numbered three hundred and twelve. The voting of persons present at the meeting was more even, sixteen voting for and seventeen against Dr. Imlach.

A fund is being raised to perpetuate the memory of the late Dr. Walter Moxon; it is intended to place a memorial of him in Guy's Hospital, and to found a scholarship or medal to be awarded by the Royal College of Physicians.

Auvard's incubator has lately been used in the Glasgow Maternity Hospital in the case of three children (triplets) born at about the sixth month, or between that and the seventh; one died on the first day, another on the sixth, but the third survived and left the hospital with its mother, and has since continued to thrive. Though thus partially successful in this case, the apparatus appears to have been found very faulty in construction and inconvenient to work. Another apparatus, designed by a firm (Hearson) who manufacture chicken-incubators, was exhibited before the Medical Society here some years ago, and, as far as could be judged, was free from the chief objections to the French apparatus, which is simple but clumsy.

Total abstainers, not satisfied with having induced several life-insurance companies to institute a special section for them, started a Blue-Ribbon Company three years ago. The company pays a dividend of five per cent. this year, and the persons insured in the total abstinence sections of the other companies receive larger bonuses than the drinkers of alcohol.

Of the various schemes for providing London students with a degree on easier terms than at present, the one which appears to be making most progress is that of the College of Physicians and Surgeons. It is reported that the delegates of the two colleges meeting together have already begun the discussion of the charter which is to be obtained for the "University of Westminster." The committee of the Senate of the University of London appointed on Lord-Justice Fry's motion have agreed to a report recommending certain alterations in the constitution of the University, intended to give the teachers more power and to make the regulations more elastic; it will shortly be discussed by the Senate, and if adopted, as is said to be probable, there can be no doubt that the University will get a new charter. In that case we shall probably hear no more of the scheme about to be floated by University College: this is to obtain a charter for "an academical body in London, of which University College shall be the first constituent, such charter to give the right of conferring degrees in arts and science only." The last clause is no doubt directed to disarm the opposition of the medical schools. The scheme, as will be observed, would work in very well with the "University of Westminster" scheme.

The General Medical Council is in session, and the new members are beginning at once to make their voices heard. The Colleges of Physicians and Surgeons in Ireland had entered into the preliminary arrangements for constituting a conjoint board upon the same lines as the conjoint board in England, and it had been arranged that application should be made to the General Medical Council to sanction the scheme. The Apothecaries' Hall in Dublin objected to being left out in the cold, and it is understood that their representations have so influenced the College of Surgeons that the latter body is anxious to modify the scheme. The College of Physicians, however, will have nothing to do with the Apothecaries, and though the General Medical Council, when the matter came before it, passed a resolution "requesting" the College of Physicians to reconsider its decision, the probability seems to be that it will remain obdurate. The most curious fact is that the Council finds that it has no power to forbid the banns if any two corporate bodies choose to enter into combination: so that it would appear to be quite within the power of the College of Surgeons to combine with the

Apothecaries' Hall and leave the College of Physicians stranded,—a consummation devoutly to be deprecated.

Dr. Lutaud, the editor of the *Journal de Médecine* (Paris), has recently been in London, collecting evidence as to the cause of death in the patients of Pasteur who have died in England. He believes that altogether ten persons have recently died of "paralytic rabies" communicated to them by Pasteur's inoculation, and has, I hear, a volume in press designed to establish this contention.

The Rev. Dr. Dallinger, F.R.S., who has been again elected President of the Royal Microscopical Society, gave an account of some very curious experiments he has been making for the last seven years on micro-organisms. He began by growing certain moulds at a temperature of 60° F.; by very gradual stages he raised the temperature and noted the effect. When, after four months, he reached 73° F., the organisms began to show that their vitality was becoming depressed; after being kept at 73° F., however, for two months, they regained their vigor; and then by slow degrees the temperature was raised to 78° F. in five months more, when another pause became necessary. By continuing the experiment on these lines he finally reached the temperature of 158° F., at which the organisms were growing when an accident put an end to the research. The organisms which had been thus acclimated to 158° F. could not live at 60° F.

The fifteenth report of the Medical Officer to the Local Government Board contains much that is of interest to epidemiologists and pathologists. In a previous letter I have mentioned the epidemic of scarlet fever in London, which was conclusively shown to stand in some direct connection with a dairy-farm at Hendon, in Middlesex, and was believed, on grounds which amounted to a strong probability, to have been due to the prevalence of sore udders among the cows. There can now be no doubt that the sore udders were in reality the cutaneous lesions of an epizootic disease easily communicable by the discharges from the ulcers. Dr. Klein, F.R.S., has isolated a streptococcus from the ulcers on the udders, and, by inoculating calves with it, has produced in them a disease which, in the changes noted in the skin and kidneys, closely resembled human scarlet fever. Finally, from the blood of ordinary human scarlet fever Dr. Klein has succeeded in isolating a micro-organism which he considers to be identical with that obtained from the Hendon cow-disease.

The result of the researches of Mr. Power and Dr. Klein, while profoundly disquieting in one respect, ought to be of great use in another, for the local disease in cows, though apparently unaccompanied by any serious constitutional disturbance, could easily be recognized. The management of a dairy-farm is becoming more and more every day a matter of science. Dr. Klein's researches will probably meet with the more extensive acceptance, even from those who are accustomed to sneer at "germs," because they are entirely confirmatory of the theory started by Mr. Power on totally different grounds,—that is to say, after a judicial sifting of the evidence of the persons engaged on the dairy-farm and in the retail distribution of the milk.

Certain writers have striven to draw a distinction between what they call "bacillary tuberculosis" and "non-bacillary tuberculosis." The difficulty of discovering the bacillus in the tissues is often very great. It was early pointed out by Dr. Koch himself, and everybody who has worked at the subject has encountered the same difficulties; everybody, however, found that the disease could be produced by inoculation of material in which the bacilli were, to say the least, extremely difficult to discover. Dr. Klein and Mr. Lingan report a few experiments on this point. Certain sections were stained with care and the absence of bacilli established; other sections made at the same time — contiguous sections in fact—were used for inoculating guinea-pigs; the guinea-pigs became tuberculous and the lesions contained the bacilli. It follows, therefore, either that the bacilli or their spores were present in the original tissue in some unattainable and undemonstrable condition, as is the more probable, or that the inoculation of the tubercular material set up a process in the tissues favorable to the development of the bacillus, which it would in this case be necessary to assume must have found its way to the site of the lesion through the channel of the vascular system, just in the way the yellow coccus of pus must be assumed to reach a commencing focus of inflammation.

DAWSON WILLIAMS.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF FEBRUARY 7, 1887.

(Continued from page 392.)

DR. CHARLES K. MILLS: My observations in regard to hydrophobia have been entirely clinical or clinico-pathological in character. About six years ago, in connection with Drs. Seiler and Collins, I read a paper before the County Medical Society, reporting some cases with hydrophobic symptoms. I have paid considerable attention to the cases of so-called hydrophobia occurring in man. The conclusion which I have reached is that nineteen out of twenty of the cases which are supposed to be hydrophobia, as they occur in the human being in this city and as reported in the journals, can be easily ex-

plained upon some other hypothesis. This has only an indirect bearing upon the study of the question of the status of Pasteur's researches.

Dr. H. C. Wood: We have heard much discussion as to the question whether the virus is that of rabies, and whether there is such a disease as rabies. This seems to me of comparatively trifling importance. The facts brought before us by Dr. Ernst seem to establish a principle which may, in the future, entirely change our present methods of therapeutics. It is perfectly plain that when we give a man the vaccine disease we produce a disease which is followed by certain changes in the system which are supposed to be identical with those produced by ordinary smallpox, and therefore the man is protected from smallpox. But in the cases of the experiments which have been given here to-night the thing is not this at all. We have an animal which has a disease,—whether it be rabies or not, it is some disease given to it,—and then the disease is cured by the inoculation of other masses of the disease-material of less virulence or potency. There has quite recently arisen in Southern Europe a school of therapeutists which teaches that we are to cure smallpox, scarlet fever, and certain other diseases by inoculation of the same disease. I confess that I have never thought the matter worth investigation; but we are now in the presence of positive and scientific evidence that we can cure disease by inoculating with an attenuation of the poison.

I think myself that the common idea that a disease does not begin until we have its symptoms is a false one. The process is going on during the period of incubation, and the disease commences, I think, so soon as the system is inoculated with the poison. The stage of incubation is simply the stage in which there are no symptoms. It seems, if the statements of Dr. Ernst be accurate, that it is possible to cure bacterial disease by the inoculation of the same poison, and the outlook for the future is that the time may come when this will be the treatment of every one of our acute zymotic disorders.

Dr. J. Ewing Mears: Before Dr. Ernst is called upon to close the discussion, it seems to me proper to say that we are under the greatest obligations to him for coming to our city and presenting to us the results of his investigations. I am informed that these experiments have been made at the instance of the authorities of the Harvard Medical School. We are therefore under great obligations both to Dr. Ernst and to the Harvard University.

With regard to the subject so ably presented to-night, I think I can speak for every true surgeon in saying that, while we have much to do with it, we are in a condition of receptivity; we are waiting for these investigations to be carried to such a point and for the results to be so determined that the practical surgeon can take the material which may be finally isolated, and which can be used in the same manner as we use the vaccine virus to-day. That the time will come I have no doubt. It may take some years; but that the outcome of all this scientific work will be the advancement of surgical knowledge and of the art of surgery there can be no question.

That we should not accept without discussion the results of these experiments is perfectly natural. I think there is reason for objections, for the results of investigations by Pasteur, upon this subject,—not such as those made by Dr. Ernst, and by others, but in the gleaning of all the results which have been presented in the journals and in other ways. It may be well that there should be some one, and probably more than one, who will act as checks upon the enthusiasm of experimenters. The objections to-night will possibly be received as suggestions by Dr. Ernst and other investigators, and will stimulate them to avoid error. It may not be familiar to all present, but it is stated that the College of Physicians of this city nearly one hundred years ago failed to approve the nomination of Jenner as an honorary member of that institution. The originator of vaccination, who has probably done as much to save life as any man, and who has placed the whole human race under obligations to him, was evidently not deemed worthy of Honorary Fellowship by the few members who then constituted the College of Physicians. They thought, no doubt, little of his work, and considered his results fallacious. This was natural: it is in accordance with what we see to-day. These investigations are progressing, and the objections, the unbelief, the suspicions, if you choose, which are constantly suggested with regard to them will do good. I think that our friend Dr. Ernst will be gratified with the instructive discussion of his able and interesting paper.

Dr. Harold C. Ernst, who closed the discussion, presented a rabbit suffering with rabies, which he had inoculated ten days ago. He also exhibited the trephines which he uses in making inoculations under the dura mater. Dr. Ernst then said,—

Dr. Shakespeare has spoken of the change in the intensity of the opisthotonos. That, too, I have seen, and I think that it is included in the description which I have given of the symptoms. I have never seen opisthotonos cease entirely. With reference to the question of tetanus, very curiously the same thing happened to me. One of the dogs which I had inoculated died, and, by the carelessness of the janitor, was not immediately placed on ice. Material from this dog was used the next day to inoculate three dogs and two rabbits; they all died the following day with intense opisthotonos. I inoculated other animals, and they also died within

thirty-six hours. Upon momentary inspection the symptoms might be thought to resemble those of rabies, but the period of incubation was almost nothing, the animals dying within thirty-six hours. I at once recognized that I had an eruption of tetanus. My time was so occupied that I was unable to make special investigations upon this matter. The only way in which I can explain it is that the dog had undergone some putrefactive changes before being used for inoculation.

Dr. Dulles has made a number of criticisms upon my paper. He is good enough to say that there are certain points which he thinks I have proved, but when he sat down I was at a loss to find that I had proved anything. He makes a point that Pasteur asserts that his animals die on the seventh day. I think that Pasteur asserts that the symptoms appear on the seventh day; but this is a small point. With reference to the variation of the period of incubation, he makes it a point that one of the rabbits which I received was inoculated June 14 and died June 28. It must be remembered that that animal was taken on a sea-voyage; it might have been sea-sick. The other was inoculated June 21 and died July 4. These rabbits were of a different species from those we have here. The variation in the period of incubation might have been due to change in the surroundings, to change of temperature, and change of the conditions under which they were kept.

With regard to averages, if Dr. Dulles misunderstood me so far after having had an opportunity of examining these tables, I am unable to help it. The longest period of incubation was twenty-three days, and that was only in one case. I mentioned that, because, in an investigation of this kind, I think that it is absolutely necessary that every experiment be given, and then a candid critic can draw his own conclusions. There was only one case in which the period of incubation was three days. In the large majority of cases it was from twelve to seven days. In most of the cases the appearance of the symptoms was from seven to eight days, precisely what Pasteur states that it is. These averages are drawn from thirty-two cases. The same is true with regard to the other averages.

In regard to my statement with reference to the place Pasteur got his virus, the sentence in which this is mentioned is clumsily constructed; but I think if attention be given it will be seen that the idea I meant to convey was that Pasteur commenced his experiments on hydrophobia with the virus from the child who died of supposed hydrophobia, not that he began his protective inoculations with that virus.

In regard to the criticism that it is necessary to make a large number of subdural inoculations with other bacteria in order to prove that this is a specific virus, and that other bacteria will not produce these symptoms, I must say that I think this unnecessary for the very reason of the success of the experiments of the kind that I have detailed, especially those upon guinea-pigs. This is the most striking series of experiments of which I have any personal knowledge.

I am ready to agree with Dr. Dulles that Pasteur's statements do vary sometimes, and I do not wonder at it. He is pursued by investigators from all over the world, and a man occasionally says things in a hurry which may get into print. As the results of his experiments are from time to time tabulated for him, his opinions must change to some extent.

Here is the fact that in three hundred and fifty or four hundred inoculation experiments upon guinea-pigs made during the past few years, I have injected subcutaneously bacteria of all degrees of virulence from that of anthrax to the simple bacteria of suppuration or the ordinary bacteria of putrefaction, and I have obtained all sorts of results, but I have never seen anything which in the least resembled what was obtained in three out of ten of these guinea-pigs. There has never been anything that could be ascribed to the nerve-centres. That the application of these bacteria beneath the dura mater would have such an effect is not probable. It has been proved by these experiments that the healthy spinal cord so applied has no effect. My results correspond very closely with those of Pasteur in this respect. He states that thirty-three and one-third per cent. of the animals inoculated with the stronger virus die. I inoculated ten animals, of which three died and one had symptoms of paresis but recovered.

Dr. Dulles wishes to know how it is possible to have the virus ready at all times. This is perfectly easy. I have proved by experiment, and the rabbit exhibited to-night is a visible proof of this, that if the animal be properly frozen the virus will retain its strength for a period of at least six months. The rabbit before you was inoculated with the cord of a rabbit which was inoculated July 11, 1886, and died the latter part of the same month. It was frozen ever since until ten days ago. I have repeated this experiment a number of times. A large number of these experiments have been made with cords which have been kept frozen for periods ranging from two weeks to six months.

Dr. Dulles has laid great stress upon the large percentage of failures. My percentage has not been larger than in most experimental work. But I have given every animal that I have experimented upon, and have tried to explain the failures. He seems to think that this is a ground for refusing belief to Pasteur's results. It does not seem so to me. I have been working almost all the time by myself. I have not the large amount of money, and I have not many of the advantages, which Pas-

teur has. These things I have not the slightest doubt reduce his percentage of failures.

I began this work last summer as a sceptic, but I am now a firm believer in the truth of most of Pasteur's assertions.

There is still another point. Dr. Dulles wants to know how it is that we are certain that this virus is the poison of rabies. The experiments of Fritch prove this. He has inoculated rabbits, dogs, and guinea-pigs with so-called street-rabies, and has produced exactly the same symptoms as those produced by the virus obtained from Pasteur. He gives the confirmatory evidence which Pasteur's experiments have hitherto lacked.

In reply to Dr. Huidekoper, I would say that this is a series of sixteen successive inoculations.

In conclusion, I would say that I think that I voice the feeling of all experimenters when I say that criticisms of this kind are not justified unless they are backed by experimental evidence. Experimental research has in modern times come to such a point that a critic who undertakes to upset conclusions based upon hard work should offer hard experimental work in contra-evidence.

Adjourned.

JOINT MEETING OF THE PHILADELPHIA NEUROLOGICAL SOCIETY AND PHILADELPHIA MEDICAL JURISPRUDENCE SOCIETY.

JANUARY 24, 1887.

(Continued from page 390.)

DISCUSSION ON DR. DERCUM'S PAPER.

DR. THOMAS G. MORTON sent a note stating that he had been compelled to leave the meeting, and requested that the following letter be read, which he had received from Dr. Longstreth, Pathologist to the Pennsylvania Hospital:

"*Dear Doctor*,—In connection with the subject on which we were speaking,—the criminal insane brain,—let us remark, in the first place, that the examination of the brain of a person strangulated is a difficult one from which to draw accurate conclusions in respect to any of the more minute conditions, as well as in its gross aspects. Strangulation fills the brain with blood and serum, and makes it larger or heavier. These facts are well supported by authorities, especially Caspar in cases of suicide. The more prolonged the act of strangulation, the more marked are the alterations due to this cause.

"In respect to almost every alteration of tissue of the brain of an insane person, the same or similar alterations have been found in the brains of those about whom there has been no suspicion of insanity.

"Of the relation between the general conformation of the brain and insanity, it is to be remarked that no two brains present the same conformation, and that the two halves of the same brain are not identical. In the malformed brains, irregularities or deficiencies of the cerebral convolutions have been pointed out as occurring in the insane and in criminals; but no definite relation has been shown to exist between any particular portion of the brain and any definite form of insanity: that is to say, the defect or malformation of a convolution or group of convolutions has not been shown in connection with homicidal mania, dementia, melancholia, or general paralysis.

"In those cases, found among the criminal classes in England, in which defective brains have been considered as the cause of the criminal characteristics, the deformity of the brain seems to have been in all cases a matter of inheritance, and the criminal has in all cases been found to be defective in other respects, either physically or mentally.

"Very truly yours,

"MORRIS LONGSTRETH."

Dr. PARKER: I have had some experience in the examination of the brains of criminals, and I must say that the brain of Wilson was an exceptional one. The highly-developed superior external *pli de passage*, almost obliterating the parieto-occipital fissure in one hemisphere, makes it one of the most remarkable brains that I have ever seen. This brain was abnormally large, weighing, I believe, nearly fifty-eight ounces. The brain had grown excessively, and the walls of the skull were very thin. We have also transverse fissures running all the way through the hemisphere, cutting off the first, second, and third frontal convolutions, so that the precentral fissure is separated from the rest of the hemisphere. We also find a tendency to the formation of perpendicular fissures. This is a brain that has developed under pressure. The skull has not developed rapidly enough to permit of the normal development of the brain.

Dr. WILLIAM OSLER: We have had very definite statements in the public press that the examination of the brain of this unfortunate individual showed conclusively that he was insane. It is very evident from Dr. Dercum's account that this brain is of a low type, but the morphological formation does not indicate that the man was insane. It is a brain such as may be found in a pauper, and such as we know is not infrequently met with in criminals.

The evidences in regard to inflammation are not clearly brought out. The thickening of the membranes did not appear to be extreme. The adhesions between the dura mater and the skull and the thickening of the pia between the sulci do not appear to have been more marked than we see in other instances of persons who have shown no signs of insanity.

I would like to ask an explanation of the differences between the published statement and that made to-night. It is extremely unfortunate that these erroneous statements find their way into the public press. I do not know whether or not Dr. Dercum was responsible for them. The impression entertained by the community is that from the examination of Wilson's brain it was clear that he was insane. No such evidence has been brought here to-night.

Dr. CHARLES K. MILLS: Physicians are frequently misunderstood with reference to questions relating to the examination of the brains of those alleged to be insane. I have examined a large number of the brains of persons who have been insane, criminals, and persons of a low order, as found in large hospitals. We find in these brains a large number of malformations, conditions of congenital defect, and conditions of arrested development from mechanical or other causes. We have not sufficient data yet to say that this is the brain of a murderer, or this the brain of a man with the delusion of marital infidelity or hallucination of hearing, because the third frontal convolution is a little too small, or a little crooked, or a little too straight. None of us say anything of this kind; but we say that in an increasing degree we are adding to the data with reference to appearances of this kind, which show that a large number of these brains have similar anatomical defects and aberrations, and that is about all.

This brain, from the statements of Dr. Dercum, was a highly-deformed brain so far as the morphological appearances are concerned. It represented the conflict going on between overgrowth and pressure. It was also a diseased brain: it was diseased in its membranes, it was diseased on its surface, and also down deep in its internal portions. That is all we can say, and that is all any of us do say.

Dr. H. C. WOOD: There is no one for whose opinion I hold a higher respect than that of Dr. Osler, and I can only think that he must have misunderstood Dr. Dercum. Dr. Dercum stated that the man had pachymeningitis; that he had meningitis involving the pia mater and the adjacent membrane; that he had vascular destruction of the interior of the brain; that he had enlargement of the periganglionic spaces; and that he had enlargement of the perivascular spaces. That certainly indicates disease of the brain, and is entirely sufficient to produce insanity. I do not say that that condition of the brain proves that the person from whom it was taken was insane. I do say that that is an insane brain, and is a straw of evidence in favor of insanity during life. We are not at present able to connect insanity during life with pathological changes. There are enough pathological changes in this brain to account for insanity if it existed during life.

Dr. FRANCIS X. DERCUM: Dr. Wood has already said what I had intended to say with reference to the pathological conditions present here.

I am glad of the opportunity of explaining what I know about the newspaper reports referred to. I was called upon by a young man, a reporter of the press, and I dictated to him four or five sentences with reference to the exact condition of the brain. During the conversation he asked me if this, that, or the other condition would indicate insanity; but the only publication which I authorized was what I dictated to him, and of this I revised the manuscript. I was as much surprised as were others when I found what had been published. What I authorized the reporter to state was that I had a diseased brain to describe, and stated in general terms the condition present.

Dr. LEVICK: There is in the University Museum a bony cyst, the size of a hen's egg, which was removed from the brain of a young Frenchman who had committed almost every crime known. Many years of his life were spent in prison, and he narrowly escaped the guillotine. He was regarded as a criminal of the worst kind; but he was a good workman, and was not suspected to be insane. After his death this bony cyst, which had been pressing on the cortical structure for a long time, was found. I merely mention this because it has become the custom to sneer at the plea of insanity. It is well to remember that morbid conditions may exist within the cranium which are not obvious, and which, if known, might render the verdict in a given case different.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held February 17, 1887, the President, A. JACOBI, M.D., in the chair.

THE PRESIDENT read an address in which, after referring to the reform of sanitary abuses brought about by organization among medical men, and pointing out certain other desired reforms, he spoke at considerable length on the subject of medical advertising in the way of reportorial puffs in the newspapers. Since his reference to this subject over a year ago, fewer reports of wonderful operations, etc., had appeared in the papers, but the abuse was being revived. A pretended interview with himself was cited, picturing the dangers which would arise from digging up the streets in burying telegraph-wires, and, although he wrote to the editor denying having been interviewed, his letter was thrown into the waste-basket. Doubtless in many other instances physicians had been misrepresented; and under any circumstances such reports could but injure the individual physician and the profession at large.

SPASTIC ATAXIA (OR ATAXIC PARAPLEGIA) AND THE COMBINED SCLEROSIS OF THE SPINAL CORD.

Dr. C. L. DANA read a paper on this subject based on an analysis of over one hundred cases of Friedreich's disease, cases of combined sclerosis with mania, and cases belonging properly to the subject of the paper. Of the entire number of cases analyzed, in forty-five an autopsy had been made; of this number only sixteen were selected as falling in the class under discussion. To this sixteen he added eight seen by himself, in only one of which (a case of Dr. Graeme Hammond) an autopsy had been made.

The name ataxic paraplegia was objected to; indeed, the author knew of no name which was without objection. We might substitute the term, based on the pathology, combined fascicular sclerosis, were it not that there seemed to be cases in which this sclerosis was present while the symptoms during life had been those of locomotor ataxia with flaccid paralysis and not spasm.

Dr. Dana thought that most of the cases described as spastic paraplegia were apparently cases of tabes dorsalis upon which there had been added a disease of the lateral columns, especially of the pyramidal tracts, often of the direct cerebellar tracts. In his own experience, it did not seem possible always to draw the line between the cases in which the spastic symptoms predominated and those in which the sensory and paralytic symptoms predominated. He would divide the cases into those in which the background was a sensory one, resembling locomotor ataxia of a mild grade; second, those in which the fundamental features were spasm and paralysis, with ataxia superadded.

The following facts were drawn from his own cases and the sixteen in which autopsies had been made. Syphilis was rare, not amounting to more than five per cent.; heredity was an important fact; spastic ataxia even showed a family type. In cases occurring in early life, sexual and alcoholic excesses had been noted; in cases in which it occurred later in life it was due to hard physical strain and exposure. The disease begins usually with ataxia; then stiffness in the legs and trembling are noticed; sexual power early declines; then there appear temporary vesical disorders, generally retention or slowness in emptying the bladder. There also occur a feeling of numbness and pains of a fulminating character which do not last long. Patches of anæsthesia often go away under treatment. The muscle-sense is often good. Gastric and enteric crises are absent. The muscular spasm usually involves the lower extremities, but sometimes the arms. The gait is a combination of that of tabes and spastic paraplegia. The lesion is usually a sclerosis or degeneration of the long system-tracts in the cord,—namely, the direct cerebellar and pyramidal tracts and the columns of Goll,—but it might extend outward laterally, and the degree of involvement at different levels is not uniform. The part usually most affected is the upper dorsal.

Dr. M. ALLAN STARR agreed with Dr. Dana with regard to the difficulty of selecting a name, and thought the one offered by the author was open to the same criticism that he had made upon the name proposed by Gowers, and which Gowers had admitted to be bad. The pathological name, combined fascicular sclerosis, was objectionable because the sclerosis was not exclusively fascicular. The paper was a valuable one, yet he thought the picture of combined sclerosis of the cord was rather hazy. The pathological findings in Dr. Hammond's case were not those of combined fascicular sclerosis.

Dr. G. W. JACOBY thought we were working very much in the dark in trying to make a classification of cases from a clinical standpoint.

The same view was expressed by Dr. Birdsall and Dr. Brill, who thought that essentially the same lesion might give rise to different symptoms, according to the fibre-tracts involved in the cord. Dr. Seguin related a case with symptoms which would justify classing it among the cases referred to by Dr. Dana, and in which the lesion showed the gross appearances of sclerosis of the posterior and lateral columns, but the microscope showed that the lesion extended to the extreme lateral portions of the spinal cord, and was rather irregular at different levels. The President suggested that the irregular distribution of the lesion might be explained by its following the course of the very fine blood-vessels, as had been supposed some years ago by a German writer.

Dr. DANA said the clinical history of Dr. Hammond's case was typical of the class referred to; the lesions, however, illustrated irregular distribution.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, FEBRUARY 28, 1887.

The President, LAURENCE JOHNSON, M.D., in the chair.

THE DURATION OF THE SYPHILOGENIC CAPACITY IN RELATION TO MARRIAGE.

THE following were some of the conclusions at which Dr. MORROW arrived: 1. The facts of every-day observation showed that there was nothing constant in the contagion, nothing certain in the heredity of syphilis. Men sometimes married during the full activity of secondary syphilis and did not infect their wives nor transmit the disease to their offspring. But these negative observa-

tions were entirely valueless compared with the positive. 2. The passage of syphilis from the second to the tertiary stage, based on the anatomical appearance of the lesions, did not furnish sufficient criterion of the contagiousness or non-contagiousness of these lesions. 3. Clinical experience showed that late lesions were exceptionally, but none the less certainly, the source of the contagion. 4. While in the immense majority of cases the contagiousness of syphilis and its power of transmission ceased after the third or fourth year, yet there were well-authenticated observations to prove that these qualities sometimes continued much longer, and might be manifest the fifth or sixth year, or later. 5. The power of syphilitic parents to procreate diseased children might persist after the disappearance of symptoms. 6. The precise date in the evolution of the diathesis when the syphilitic organism underwent that change which marked the limit of transmissive power was not indicated with mathematical certainty. 7. The type of syphilis, the duration of its manifestations, the constitutional peculiarity of the patient, the character of the treatment, the presence or absence of certain conditions which were commonly recognized as factors in the gravity of syphilis, all exerted a modifying influence. 8. All these elements should be taken into consideration in deciding on the propriety of a syphilitic man's marrying. 9. Direct transmission from the father to the offspring, without the mother's becoming affected, could be classed among established facts.

Dr. Morrow referred to a paper by Dr. Otis, and said that he thought the conditions of admissibility to marriage formulated by Fournier were much broader and safer to follow. Indeed, the object of the paper was largely to prevent the evils which would result to the community should Dr. Otis's views be commonly accepted.

Dr. F. N. Otis had time to read but a part of a lengthy reply which he had prepared, knowing about what ground the paper would cover. He claimed that the inferences drawn from his paper by Dr. Morrow were not justifiable, for while he (Dr. Otis) had stated that his observation and that of others warranted the view that there was little danger of infection or transmission of syphilis after about the third year, yet he did not mean to license unrestricted liberty after that period. He held, however, that the reported cases of inoculation or transmission of syphilis after the fourth or sixth year, or later, were not only very few in number, but were unreliable, as other sources of contagion had not been excluded.

Dr. Otis believed that there were really only two stages of syphilis,—the infectious and the non-infectious. The first was characterized by cell-proliferation, the second by cell-destruction. Strictly speaking, the second stage was not syphilis; it was the sequelæ of syphilis, just as scarlet fever might have sequelæ after its infection had long disappeared. All authors admitted that syphilis did cease to be infectious or hereditary; it was only a question as to length of time. Few would refuse to give permission to matrimony after the fourth year; there were many who in certain cases would give it after the third year.

Dr. R. W. Taylor would be unwilling to be inoculated by lesions of syphilis, apparently secondary, although they did not occur until after the fifth or sixth year. But the contagious and hereditary property of the disease depended much upon circumstances, particularly upon treatment. If he could treat the patients from the appearance of secondary lesions to the end of the second year or second year and a half, he would be willing to risk that ninety-nine out of one hundred then marrying would escape affecting the wife or child. The virulence of syphilitic contagion gradually diminished: its exact duration could not be marked with mathematical certainty; it varied in different cases. He would not give his consent to a syphilitic's marrying before the end of two years. But if circumstances compelled marriage, he advised the prevention of conception and the employment of all safeguards against infecting the wife as long as the contagious element continued.

Dr. Bronson said the mother of a syphilitic child, the father having also syphilis, might be without lesions and still have syphilis. This was shown by the fact that the diseased child could not infect the mother, while it would a nurse.

ON THE SUPPOSED VIRUS OF CHANCROID.

Dr. F. R. Sturgis read the paper, in which he cited a number of experiments going to prove the position which he accepted,—namely, that there was no virus of chancroid. It was the result of an acute inflammation; its source, while frequently from another chancroid during venery, might also be from irritation in any other wound. Gonorrhœal pus, for instance, had given rise to the chancroid when applied to an abrasion or sore, and this chancroid was capable of auto-inoculation like any other chancroid. But its auto-inoculative property was usually less tenacious.

Dr. R. W. Taylor said the views of Dr. Sturgis to-day were those which Dr. Bumstead held almost alone in 1876, Dr. Taylor, however, having arrived at the same conclusions by independent investigation. He was glad to see that Dr. Sturgis had come over.

Dr. Otis accepted the views of the author of the paper.

Dr. Sturgis was not willing to admit having changed his views, but said that his paper this evening was only a continuation of an

article which he had published in the "Encyclopædia."

The special committee appointed to investigate certain charges against the Board of Health contained in the President's annual address reported that certificates of death had sometimes been returned requiring unnecessary changes. The sanitary superintendent, they thought, should have discretionary power to return certificates for correction or alteration, but it should be by special messenger or under seal, and not by word to the undertaker, to be delivered to the friends of the deceased, and by them to the physician.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held February 23, 1887, the President, T. MITCHELL PRUDDEN, M.D., in the chair.

PISTOL-SHOT WOUND OF THE BRAIN.

Dr. W. H. PORTER presented the brain of a man who had shot himself in the temple with a pistol of about .32 calibre. The ball passed directly through and out at the other temple, dividing in its course both middle cerebral arteries and breaking both orbital plates.

SURGICAL LIVER AND KIDNEY.

Dr. PORTER also presented the organs of a woman, aged about 22, who died about a week after laparotomy and removal of a hæmatoma by Dr. Emmet. The patient did well for five days after the operation, but the urine, which had previously been normal, showed increasing albumen and casts and specific gravity. Bad symptoms set in on the fifth day, ending fatally. The autopsy showed the wound in good condition, except a slight amount of suppuration along the sutures. There were no signs of peritonitis. There was extensive parenchymatous and fatty change in the liver, with some cirrhosis; a less degree of parenchymatous metamorphosis in the kidneys, and still less degenerative change in the heart. Dr. Porter thought the primary lesion leading to death was in the liver, that in the kidneys being secondary, and due to the poisonous elements thrown upon them from imperfect function in the liver and to want of nutrition. In a number of cases in which such changes had been found after anæsthesia for a surgical operation, there was no pus whatever in the operation-wound.

PRIMARY LESION IN THE RIGHT SIDE OF THE HEART.

Dr. PORTER also presented a heart removed from a man who had a history of rheumatism, jugular pulsation, a mitral and a tricuspid regurgitant murmur, and œdema. The specimen was interesting from the fact that it was rare to find the primary lesion upon the right side of the heart, as it seemed to be in this case. The right auricle was largely dilated; the ventricle was very small; there was tricuspid insufficiency; the mitral valves also showed marked insufficiency; there was also marked perihepatitis and patches of cirrhosis.

BILIARY CALCULI.

Dr. PORTER also presented the liver and a large blood-clot removed from the body of a woman, aged 32 years, who had always been healthy except at times during the past eight or ten years, when she suffered severe pain in the region of the liver. When admitted to the hospital she was jaundiced, had high temperature, and some tenderness in the abdominal region. General physical examination was negative. An hepatic abscess being suspected, aspiration was performed without result. Albumen and casts appeared in the urine the last few days of life.

The post-mortem examination showed numerous gall-stones in the gall-bladder and throughout the liver, eighty-six having been counted; the common duct was pervious, and all the ducts and gall-bladder were dilated. Dr. Porter thought it likely there had been a stone which oscillated back and forth in the common duct, obstructing the flow of bile, but which escaped unknown. He thought the stones had probably formed in the gall-bladder and backed up into the liver. An interesting feature in the case was the fact that capillary hemorrhage had occurred along the line of the aspirating needle, and within the peritoneum, between the liver and the diaphragm, there was a large blood-clot. The kidneys had undergone parenchymatous change, and there was endometritis and cystic degeneration of the ovaries. There was extensive parenchymatous and granular destruction of the liver, and slight cirrhosis. The heart-muscle was fatty.

EXSECTION OF THE HEAD OF THE FEMUR.

Dr. L. H. SAYRE presented the head of the femur removed from a boy, aged 13 years. His family history was good, and his health had been good, but he had, as his sister stated, always walked as if on a wooden leg. Three years ago he fell, and two years ago his lameness increased, but he was again able to walk as well as ever until about six weeks ago, when there was pain in the hip. Dr. Sayre thought it probable there was disease of the acetabulum. Lately deep-seated fluctuation was discovered over the enlarged gluteal region, and an exploratory excision gave exit to about four ounces of pus. No débris being in the pus, and there being no crepitation, it was a question whether to go on and excise the joint. Some gelatinous matter was extruded on manipulation, when it was decided to excise the joint. The ligamentum teres was gone, the acetabulum was perforated to the internal periosteum, the head of

the femur was perforated, the neck showed considerable disease. The patient was doing well since the operation.

ABSCESS OF THE LUNG SIMULATING EMPYEMA.

Dr. L. E. HOLT presented the lung of an infant, aged 3 weeks, which he first saw October 23, when it had been three days ill with pulmonary symptoms. Dr. Holt found signs of broncho-pneumonia in the lower lobe of the right lung. The temperature remained elevated to nearly 103° for eight days, and then fell. The changes at this time were similar, but more pronounced than at the first examination. He saw the child about ten days later, when he was informed that it had been doing well, and had gained flesh, but that the temperature had gone up the night before. There were now unquestionable signs of fluid over the lower lobe of the right lung, and to their astonishment the aspirator-needle withdrew pus, pointing to empyema. Three ounces were withdrawn. The line of flatness changed with change of position. The temperature fell, and continued down to about the second week, the child doing well. There was apparently little tendency to reaccumulation of fluid. The needle was again introduced, but only an ounce of pus could be withdrawn. Dr. Holt did not see the child again during life, but was told that three or four days later the temperature went up, and there was dyspnœa. The house-physician introduced the aspirator-needle at two places, but found no fluid. The autopsy showed the right lung occupying nearly the entire chest-cavity. In its lower lobe was a large fluctuating mass, found to contain four ounces of pus. No fluid in the pleural cavity. There were some patches of pneumonia in the upper lobe of the right lung. The lower lobe of the left lung was collapsed. The abscess-cavity seemed to be surrounded by dense fibrous tissue.

Dr. FRANK FERGUSON had recently found a similar abscess-cavity in the lower lobe of the lung of an adult. Close search showed that it communicated with a bronchial tube.

STRICTURE OF THE ŒSOPHAGUS.

Dr. FRANK FERGUSON presented the œsophagus of a child, aged 2 years, which had swallowed a small quantity of caustic potash about three months previously, and had since then been unable to retain anything on the stomach. Its condition did not permit of an operation when it entered the hospital. Nourishment was given by the rectum. The stricture was found on autopsy to be about midway of the length of the œsophagus, and scarcely admitted a match. The organs were anæmic.

THE death of M. Béclard, Dean of the Paris Faculty, and Professor of Physiology, at seventy-five years of age, has been announced.

REVIEWS AND BOOK NOTICES.

SŒUR JEANNE DES ANGES, SUPÉRIEURE DES URSULINES DE LOUDUN (XVII^e Siècle). Autobiographie d'une Hystérique possédée, d'après le Manuscrit inédit de la Bibliothèque de Tours. Annoté et publié par les Docteurs GABRIEL LEGUÉ et GILLES DE LA TOURETTE. Préface de M. le Professeur CHARCOT. Paris, 1886.

This is the latest of the publications of the *Progrès Médical* belonging to the Bibliothèque Diabolique, Collection Bourneville. In the public library of Tours is a book belonging to the middle of the seventeenth century, in manuscript, the title-page of which is (translated) as follows: "The Story of the Possession of Jeanne des Anges, Mother-Superior of the Ursuline Convent at Loudun." To extracts, which are evidently authentic, from the original diary and correspondence of Sœur Jeanne are added the reports of several investigations and trials, giving an insight into the workings of disordered physical and nervous organizations, which found expression in fancied supernatural possessions, and even in imaginary impregnation and suicidal impulse. The light which has been thrown upon the obscure manifestations of hysteria by Charcot enables us to understand the pathology of demoniac possession. Nowadays, instead of resorting to exorcism, we treat the physical disorder underlying it, as happily expressed by the poet Bunthorne: "All can be set right by calomel."

ON THE DISORDERS OF DIGESTION: THEIR CONSEQUENCES AND TREATMENT. By T. LAUDER BRUNTON, M.D., D.Sc., F.R.S., etc. London, Macmillan & Co., 1886. 8vo, pp. 389.

The Lettsomian Lectures on Disorders of Digestion, their Consequences and Treatment, delivered by the author in 1885, are the *pièce de résistance* in the volume before us, in which the author has included reprints of various articles upon allied subjects prepared and published by him at various times since January, 1873.

The author intends that these papers shall be read singly, at odd half-hours, rather than consecutively, since there is some unavoidable repetition, which, however, is justified by the importance of the lessons which they teach.

A MANUAL OF PRACTICAL THERAPEUTICS, CONSIDERED WITH REFERENCE TO ARTICLES OF THE MATERIA MEDICA. By EDWARD JOHN WARING, C.I.E., M.D., etc. Edited by DUDLEY W. BUXTON, M.D., etc. Fourth Edition. Philadelphia, P. Blakiston, Son & Co., 1886. Post 8vo, pp. 666.

Owing to physical disability, Dr. Waring secured the services of Dr. Dudley W. Bux-

ton, Assistant to the Professor of Medicine at the University College, London, as editor of the fourth edition of this well-known work on Therapeutics. By condensing and curtailing some of the old material, space has been found for notices of the principal new remedies which of late years have received professional endorsement. The work is alphabetically arranged; the articles are confined to the discussion of the definition, dosage, medical properties, and uses of the various drugs now employed in medicine, upon the basis of the British Pharmacopœia. American students will find it useful as an addition to their usual text-books, as it contains, in a form convenient for reference, an epitome of modern therapeutics.

NEW REMEDIES AND CLINICAL NOTES.

PRURITUS PUDENDI.—Parvin, in eczematous inflammation, recommends poultices and alkaline washes, followed by a powder of starch and oxide of zinc, or the subnitrate of bismuth, or an ointment of white precipitate. Constitutional treatment, a milk diet, and the use of Fowler's solution will be beneficial in most cases.

In ordinary pruritus hydrocyanic acid is one of the best applications to relieve the itching. Levrat recommends the following formula:

℞ Plumbi acetatis, 1 G.;
Acid. hydrocyanici dilut., 2 G.;
Aquæ, 20 G. M.

If excoriations exist, the following may be applied:

℞ Balsami Peruviani, 2 G.;
Ol. amygdalæ dulcis, 3 G.;
Acaciæ, 4 G.;
Aquæ rosæ, 15 G. M.

If the disease be parasitic in origin, a mixture of equal parts of sulphurous acid and glycerin may be applied, or a sulphur-bath taken. Finally, a six- to ten-per-cent. solution of cocaine muriate may be brushed over the irritated surface. Hot applications are sometimes very effective; others find more relief in ice-water compresses.—*College and Clinical Record.*

NAPHTHALIN AS A VERMIFUGE.—A Russian physician, Dr. Koriander, recommends naphthalin as a tænicide. To children of from one to three years from two to thirty grains, or to adults from twenty to ninety grains, daily, were given, in tapeworm, with successful results.

EXTRACT OF OPIUM FOR LOCAL USE.—The extract of opium, according to Dr. E. R. Squibb, is a convenient preparation for external or enepidermic anodyne application. It is to be moistened with water to a semi-liquid consistence, and spread very thinly upon oiled silk or adhesive plaster.—*Ephemeris*, January, 1887.

MISCELLANY.

PROGRESS OF CREMATION IN NEW YORK.—The most convincing sign which could be given of the interest felt in cremation in this country is given in the annual report of the New York Cremation Society. This Society owns the crematory at Fresh Pond, New York, and is the most successful of all the associations in this country. It has now one hundred and ninety members, of whom one hundred and thirty-two are active, and twenty-two have been added during the year. The company is out of debt, but needs money to carry on its work. On this point President William J. Flagg said, "During the year just ended we have more than held our own as to members and in resources. Aside from this, it has been a year of inactivity—call it a year of waiting, of waiting on events and developments—at the Fresh Pond Crematory. Our waiting is not yet ended, for the Cremation Company has had and still has its own troubles. Nevertheless, it has made a good record, having performed eighty-four incinerations during 1886, which compares well with that of any similar institution. If now it finds itself embarrassed for lack of reserved funds, and is obliged to ask for a moderate contribution in the form of a temporary loan from friends of the cause such as are here to-night, its prospects must not be thought discouraging. The company may well claim such trifling aid. Its managers have done their whole duty in digging their way up out of the material and financial ruin into which it tumbled so suddenly one day. The company now owns a crematory not elegant, but sufficient for all practical purposes, and is out of debt."

The amount of money needed was said to be two thousand five hundred dollars; the earnings of the crematory during the year were two thousand one hundred dollars.

In regard to the progress of the cremation idea Mr. Flagg said, "Cremation has gone quietly into operation without opposition or hinderance from any source, and without serious difficulty as to practical details. That an entire change in the customs of a people in the important and solemn matter of disposing of the dead should have been allowed in this way is certainly creditable to modern toleration. Considering that yet it is but a feeble minority that prefer to give their bodies to the element of fire to purify and consume, instead of giving them to foul the other three elements, we must admit that it is very generous of the majority to let us have our own way, which we trust will soon be the way of all."

ALEXANDER'S OPERATION.—Prof. Thomas A. Ashby, at the meeting of the Baltimore Academy of Medicine held February 1, 1887, read "A Contribution to the Study of the Operation of Shortening the Round Ligaments of the Uterus in Cases of Posterior Uterine Displacement, as originally performed by Dr. William Alexander, of Liverpool, in 1881." One case is reported in Dr. Ashby's paper, the result being a remarkable success. After considering the steps of the operation, he offers the following conclusions:

1st. The round ligaments are designed to hold the uterus in its axis in the pelvis and to draw the fundus of the organ towards the symphysis pubis. They have little, if any, sustaining power in preventing procidentia, except in extreme degrees of descent, where the organ has escaped external to the vulva. Posterior displacement of the uterus can only take place when the round ligaments have been relaxed or stretched by prolonged tension.

2d. Shortening the round ligaments is a practical method by which the uterus may be lifted into its normal axis, and be retained in position by a restoration of its normal supports.

3d. This operation is admissible in all cases of posterior displacement where the uterus is not fixed by adhesions, but perfectly movable in the pelvis, and where other methods of support are not of service.

4th. The operation can prove of little value in cases of procidentia, except when employed in conjunction with other methods instituted to overcome this form of displacement.

5th. The operation can be easily performed by one who is familiar with the anatomy of the parts. It is almost devoid of danger if ordinary safeguards are employed.

6th. In the class of cases to which it is limited, the benefits secured are striking and important.

LEGISLATION NEEDED TO PREVENT RAILROAD MISMANAGEMENT AFFECTING FOOD-SUPPLY.—The transportation of cattle is one of the questions which should concern the philanthropic and which ought to receive the attention of State Legislatures. The recent severe weather in the West has delayed railroad-trains greatly, and one of the most serious results of the storm is the loss of cattle coming from Texas to Chicago.

There have been many deaths which have been attributed to the bitter cold. It appears, however, that many of the cattle have had no food or water during their transportation, and a delay of only twelve hours might cause great mortality, even if there had been no storm at all.

It is barbarous to crowd cattle into small, poorly-ventilated cars, and then leave them without food and water for a period of from twenty-four to seventy-two hours. It is no wonder that many died when the trip was a little longer than was expected. It seems strange that cattle-owners should be willing to take the risk of loss, even if no sentiments of humanity prompted them to take care of their cattle. Yet such is the case, and perhaps nothing can be done until the Legislatures step in and require owners, under heavy penalties, to supply proper food and water for cattle while being transported. Such legislation would be as popular as it would be beneficial.

RESTRICTIONS UPON THE SALE OF ALCOHOLIC LIQUORS.—According to the statements of the Attorney-General of Kansas in his recent report to the Governor of that State, prohibition is a great and acknowledged success. The only drawback is that the drug-stores have taken the place largely of the saloons, and now retail liquor in much the same way that the saloons did. The law which permitted the drug-stores to sell liquor is a necessary one, and yet some way must be devised to keep the druggists within bounds. The Attorney-General asks to have the laws made more stringent, and suggests that the druggists be obliged to state under oath that the persons applying for liquor were known to them. The applicant must also sign his proper name instead of a fictitious one.

The principal piece of temperance legislation recently has been the decision of the Supreme Court of Ohio that the Dow tax-law is constitutional. This law places a tax ranging from two hundred dollars upward on all saloons, and will no doubt considerably reduce the number of saloons, while at the same time it brings in a large revenue to the State.

DEATH FROM BROMIDE OF POTASSIUM.—Eigner reports in the *Wiener Med. Presse* a death from chronic bromism. The patient was a girl, 19 years of age, who became epileptic at the age of six, in consequence of fright. She had taken bromide of potassium without medical advice for about a year, beginning with a small dose, but increasing it rapidly until, for some weeks, she had been taking two teaspoonfuls of the salt a day. The epileptic attacks ceased, but the patient began to grow weak and irritable, was unable to sleep, had vertigo, difficulty of vision and slowness of speech, and lost her memory. There were salivation, foul breath, and an eruption of acne on the face and over the entire body. The author calculated that the girl had taken over three pounds of the drug in the course of a year. She was admitted to hospital, but no improvement followed; she became delirious, and finally died. Just before death, signs of a commencing pneumonia at the base of the right lung were discovered; but, while this perhaps hastened the fatal termination, death was inevitable, and was evidently attributable to bromism.

While chronic bromism is not rare, it has seldom been the cause of death.—*Druggists Circular.*

THE ARCHIVES OF PEDIATRICS, edited by William Perry Watson, M.D., a monthly journal devoted to the diseases of infants and children, is now published by the J. B. Lippincott Company. The same general plan followed in the editorial department in the past will be continued,—viz.: I. Original Communications. To this department contributions have been promised by all the prominent teachers and writers on pediatrics in this country and in Europe. II. Current Literature. In this department it is intended to present from month to month a brief practical *résumé* of all the current pediatrical literature of the world,—information that it would be impossible for the busy practitioner to obtain without great cost and an immense loss of time. Drs. And. F. Currier and L. E. Holt, of New York, and Dr. John Van Vorst, Jr., of Jersey City, will continue their connection as collaborators. Subscription price, three dollars per annum. Address of editor, 319 York Street, Jersey City, New Jersey.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—All who propose to read papers before this Society at its next session, to be held in Bedford, June 29, should *at once* send title and a brief abstract of the same to Dr. S. H. Gump, Chairman of Committee of Arrangements, Bedford.

WM. B. ATKINSON,
Permanent Secretary.

AT the annual examination of the students of the Philadelphia School of Anatomy, the "Henry C. Boenning Gold Medal," for proficiency in anatomy, was awarded to Mr. Manley F. Gates, of Elmira, New York, attending the Medico-Chirurgical College.

PROF. HUNTER MCGUIRE, of Richmond, Virginia, will deliver the annual oration—subject, "The Progress and Development of Medical Science"—before the Alumni Association of the Jefferson Medical College on Monday evening, April 4, 1887. A reception will be held after the lecture.

PROFESSOR JOHANN RUDOLPH RANKE, of the University of Groningen, recently died from the remote effects of blood-poisoning, contracted eighteen months ago.

DR. S. SOLIS-COHEN has removed to 219 South Seventeenth Street, Philadelphia.

NOTES AND QUERIES.

OBITUARY.

WILLIAM S. LITTLE, M.D., of Philadelphia, died at Aiken, South Carolina, February 17, in the thirty-ninth year of his age. He had achieved considerable reputation as an ophthalmologist, and was a member of the American Ophthalmological Society and other societies. He was a graduate of Princeton, and of Bellevue Hospital Medical College, and later of the Jefferson Medical College, in which for the last ten years he served as chief assistant to the Eye-Clinic. He had also studied his specialty in Europe. In spite of failing health, he devoted himself assiduously to his practice, and was a valued contributor to the medical journals. For many years he had been ophthalmic surgeon to the Church Home at Angora, in which he was greatly interested. He leaves a wife, the daughter of Dr. Ellwood Wilson, and five children.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 27, 1887, TO MARCH 12, 1887.

MAJOR C. H. ALDEN, SURGEON.—Ordered for duty at U.S. Military Academy, West Point, New York, August 28, 1887, relieving Lieutenant-Colonel Andrew K. Smith, Surgeon, who will then report by letter to the Surgeon-General. S. O. 52, A. G. O., March 5, 1887.

MAJOR CHARLES R. GREENLEAF, SURGEON.—Ordered for duty in the office of the Surgeon-General of the Army. S. O. 41, A. G. O., February 18, 1887.

MAJOR D. L. HUNTINGTON, SURGEON.—Will be relieved from duty in the office of the Surgeon-General, to take effect March 1, 1887. S. O. 41, A. G. O., February 18, 1887.

MAJOR DAVID L. HUNTINGTON, SURGEON.—Ordered for duty at San Diego Barracks, California, and granted leave of absence for one month from March 1, 1887. S. O. 45, A. G. O., February 25, 1887.

CAPTAIN ROBERT H. WHITE, ASSISTANT-SURGEON.—On being relieved by Major Huntington, to proceed to Angel Island, California, and report to commanding officer for duty at that post. S. O. 45, A. G. O., February 25, 1887.

CAPTAIN WILLIAM F. CARTER, ASSISTANT-SURGEON.—Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Department of Texas, February 24, 1887.

CAPTAIN GEORGE MCCREERY, ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 52, A. G. O., March 5, 1887.

CAPTAIN WILLIAM W. GRAY, ASSISTANT-SURGEON.—Leave of absence for seven days is extended twenty-three days. S. O. 13, Department of Dakota, February 21, 1887.

CAPTAIN R. W. JOHNSON, ASSISTANT-SURGEON.—Ordered for temporary duty at U.S. Military Academy, West Point, New York. S. O. 51, A. G. O., March 4, 1887.

FIRST-LIEUTENANT GUY L. EDIE, ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect about March 1, 1887. S. O. 27, Department of Texas, February 28, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING MARCH 12, 1887.

SURGEON GEORGE B. BRADLEY.—Detached from Naval Hospital, Philadelphia, Pennsylvania, and granted six months' leave.

PASSED ASSISTANT-SURGEON JOHN W. STERLE.—Ordered to Naval Hospital, Philadelphia, Pennsylvania, without delay.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE SIX WEEKS ENDED MARCH 12, 1887.

GUITÉRAS, JOHN, PASSED ASSISTANT-SURGEON.—Granted leave of absence for twenty-one days, February 28, 1887.

PETTUS, W. J., ASSISTANT-SURGEON.—To proceed to Charleston, South Carolina, for temporary duty, February 28, 1887.

BANKS, C. E., PASSED ASSISTANT-SURGEON.—To proceed to Chicago, Illinois, and assume temporary charge of the Service, March 10, 1887.

PHILADELPHIA, APRIL 2, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF FETID BRONCHITIS SIMULATING ABSCESS OF THE LUNG CURED BY THE OIL OF SANDAL-WOOD; AND ON A CASE OF TUMOR OF BRAIN WITH CROSSED PARALYSIS.

Delivered at the Pennsylvania Hospital, January 22, 1887,

BY PROF. J. M. DA COSTA, M.D.

GENTLEMEN,—This patient is about leaving the hospital to return to his work, and I will now lay before you the results of his treatment. He is about 32 years of age, and has been much exposed to fumes of nitric acid in some chemical works. He had articular rheumatism five years ago, and chills and fever twice within the last two years. He drinks whiskey steadily, but denies excess. He was admitted into the hospital December 16, with cough and profuse expectoration, sometimes bloody and offensive. He had emaciated greatly, complained of poor appetite, diarrhœa, and had vomited several times. He had frontal headache, and sweated freely at night. Altogether it was a very unpromising case.

Upon examination there was found, about the middle of the left lung posteriorly, some dulness on percussion, and, upon placing the stethoscope to the chest, moist râles and faint pectoriloquy could at times be obtained.

All this, however, was but a repetition of a previous note, for the man had been in the hospital last September in a very similar condition, and so great at that time was the amount of the expectoration, containing masses of purulent matter, that the idea of abscess of the lung was seriously entertained. He was somewhat benefited by treatment, and went out, only to return with the same symptoms; and, indeed, there is no evidence that they had ceased from the time that he was in the hospital. When he returned were found again the cough, fetid expectoration, nummular sputa, emaciation, and sweating, and other features which had given rise to the supposition of abscess of the lung.

When readmitted, he had a slight rise in temperature (100°); pain in his left side; frequent expectoration of offensive purulent matter, amounting to a pint and a half in twenty-four hours, occasionally blood-streaked. The sputum was examined microscopically, but no bacilli and no elastic tissue could be found.

Now, this man, with all the signs of constitutional disturbance, emaciation, sweating, and the like, with all the signs of disease of the left lung, was submitted to systematic treatment and carefully-regulated diet. He was given carbolic acid, and subsequently terebene by inhalation, and other agents; but none of those tried and retried gave any enduring results. I then thought of what I had used before in cases of profuse expectoration, and especially in bronchial catarrh with offensive discharge, as in fetid bronchitis, and I placed him upon the oil of sandal-wood, at first five minims three times daily, and afterwards five times daily. The results were most striking. After about a month's treatment the expectoration has almost ceased; he now expectorates no more than a drachm in the twenty-four hours. The dulness at the lower part of the lung is no longer to be perceived, his breathing is better, the râles have disappeared. There are no physical signs other than a little harshness of breathing at the point indicated.

I will not discuss the diagnosis of this case. I do not think that there was really an abscess, but that there was bronchitis with dilatation and accumulation simulating an abscess. I do not propose to go into this more particularly, but merely show him to you and direct your attention to the oil of sandal-wood as an agent acting decidedly upon the mucous membrane of the bronchial tubes. Its effects upon other mucous membranes, as in the genito-urinary tract,—as in cases of purulent urine from disease of the kidneys,—first led me to use it for the condition of bronchorrhœa. It has afforded great relief to such cases in my hands. I may say that this man was cured by the oil of sandal-wood; and I think it worthy of your consideration in connection with other resources for the treatment of chronic bronchitis, with or without fetid expectoration, to which I have already called your attention.

CROSSED HEMIPLEGIA DUE TO BRAIN-TUMOR.

The next case to which I will call your attention is a more protracted one, though less rare than the one you have just seen. This is a boy, 15 years of age; birthplace, Brazil. His mother, brother, and sister, he states, are healthy and strong. His father was killed. We found no evidence of inherited syphilis, and he informs us positively that there is no acquired venereal taint. He was always healthy until about a year ago. He went to school, but sometimes worked at mule-driving. This is all I can tell you with regard to his antecedents.

The present illness began, as he stated, about a year ago, when he suffered with frontal headaches, which became worse as time went on. He kept at work until last summer, when he fell and injured his head and leg. After this his headaches became worse, and vertigo appeared. His sight also was affected, so that he had to stop work. About two months ago he lost power in his right arm and leg,—not suddenly, but gradually. He also noticed that he could not feel objects touching the left side of his face, and the corresponding side of the tongue lost its power of taste. About the same time he became deaf in the left ear. For two weeks prior to admission he had a ringing in his right ear. For seven weeks he had been under treatment at an eye-hospital, but his sight grew steadily worse. He also had some difficulty in swallowing. His lungs, upon admission, were found to be normal. The splenic dulness was not increased. The urine was alkaline shortly after it was passed; specific gravity 1026; there was no albumen present. The frontal headache is still very severe at times, and strabismus, due to paralysis of the external rectus of the left eye, is observed. The pupils are dilated. He can see more distinctly with the right than with the left eye. There is no ptosis, but the left eye cannot be tightly closed, owing to orbicularis paralysis. The face is drawn slightly to the right, there is still partial anæsthesia of the left side of the face, and he cannot speak very distinctly. Hearing is impaired in both ears, but most decidedly in the left ear. Sensation and motion are still impaired in the right arm and leg, where the tendon reflexes are exaggerated. In the left arm and leg sensation and motion are preserved.

He has less headache this morning than usual, but it is still frontal in character. There is yet a decided difference between the two arms, and his grasp with the right hand is weak. He can kick better with his left than with his right leg, and in walking he barely lifts the right leg from the ground. He can walk with his eyes shut, though hesitatingly: he walks in a straight line. The patellar tendon reflexes are distinct on both sides. He seems intelligent, and takes interest in what is going on around him. His temperature is, and has been, normal: on one occasion only has it attained 99°.

I repeat the observation made on admission,—that there is no heart-lesion. The pulse ranges from 80 to 90. There has been no vomiting. Tongue slightly coated; bowels tend to constipation. He has not been delirious at night. His mind is always as clear as at present, but he has not a very good recollection of dates. It is a steady headache that he complains of; he has had no vertigo since his admission. He is still unable to close the left eye.

Now, gentlemen, I have told you all about this case except the report of ophthalmoscopic examination. The pupils respond to light. There is complete paralysis of the external rectus of the left eye, and paralysis of the orbicularis. The vision of both right and left eyes is impaired. Optic disks are swollen; veins are enlarged. There are striated hemorrhages just above the disk in the left eye. We have, therefore, choked disks, with hemorrhages. [Patient taken out.]

What is the explanation of this group of symptoms? There are only two suppositions that are plausible. This patient has chronic meningitis with thickening, most marked at the base of the brain, principally upon the left side; or he has a brain-tumor. I cannot see how else to explain the phenomena of defective sensation upon left side of face and tongue, deafness in the left ear, with paralysis of muscles of the left eye, together with motor paralysis of the right side of the body. On no other supposition than the presence of an exudation or a tumor could we understand the evident existence of pressure. Let us discuss this question. Is it a tumor, or is it meningitis? In the first place, we have a very obscure history. The boy had violent headaches before he fell and struck the back of his head; on

the other hand, he had no specific history nor anything to give rise to a tumor. Everything is in favor of meningitis caused by a fall, except the history of prolonged attacks of headache before the fall took place. The symptoms presented have more of the character of those caused by meningitis than of those caused by a slowly-growing tumor. But having approached the subject with unbiassed mind, and after going over the facts, I conclude that the boy has a brain-tumor rather than meningitis. Notwithstanding the history and the points which favor meningitis, the evidence is against the view that there is sufficient meningitis to produce these symptoms. In the first place, you have noted the entire absence of fever. My experience with chronic meningitis is that it gives rise to exacerbations of fever; during the day the temperature may be normal, but at times there will occur nocturnal fever associated with delirium. Another point is that in meningitis the superficial portions of the brain, too, become affected, and there is either irritability of temper or impairment of memory; or, in other words, that other cerebral symptoms are apt to be present besides those of headache and paralysis. The boy's memory is good except for dates, and he has a good temper. These are strong points against meningitis. I may add another one, though of less value than those I have mentioned. This boy has had no convulsions. Yet I do not lay much stress upon this, because in brain-tumor you may also have convulsions. You will ask, Does the eye-examination give any light upon the diagnosis? No. The conditions found might be all accounted for by the pressure exerted in either case,—by an exudation as well as by a tumor; though the hemorrhages and signs of intense pressure are more in favor of a tumor as the cause than of meningitis.

Now we shall turn our attention to some points which need discussion in connection with the diagnosis of tumor. Let us ask, Where is it situated? What is its character? With reference to the last question, the nature of the growth is rather obscure. But from its slow course I conclude that it is not cancer, but, probably, one of the forms of non-malignant growths due to increase of areolar tissue. It is not aneurism, because there is no whirr or thrill perceived when the stethoscope is applied over the temporal region. My belief, then, is that it is not cancer and not aneurism, but a connective-tissue, non-malignant growth.

Where is the site of this tumor? It is not always easy to say where the tumor is situated. Sometimes due consideration of the special senses affected, together with our knowledge of the physiology of the cranial nerves, will enable us to decide very positively upon the locality of the lesion; in other cases it may be impossible. In this case I think that I can locate this tumor satisfactorily. Here is a crossed paralysis,—left side of face and right side of body,—and loss of sensation on the left side of face and tongue. This can be produced only by a lesion very low down, but yet above the point of decussation of the motor tracts. The growth must be on the left side of the brain. It must be near the origin of the gustatory nerve, and must also be in a position to press upon the portio mollis of the seventh nerve going to the left ear; the portio dura is also affected, as is seen in the paralysis of the facial muscles. This is clear. For the reasons assigned, the growth must be on the left side of the brain, and at its base, at a point where it would be in contact with the nerves passing from the medulla and pons.

As the hour has expired, I will merely state, in regard to treatment, that the boy has been taking large doses of iodide of potassium, and is doing well on it. I do not know anything better. With this, small doses of bichloride of mercury have been administered (ten grains of iodide and a twenty-fourth of sublimate three times a day). He has now been taking this for ten days. He declares that he feels better, he has less headache, and he walks better. There is now very little impairment in his gait. I have spoken about the advantages of iodide of potassium in the treatment of brain-tumor before, and need not now refer to them again. Shall we continue this treatment, or shall we increase the iodide to twenty grains three times a day? We will gradually increase the remedy to larger doses as long as he improves under it or until the symptoms disappear. This is not done because I have any idea that the boy has syphilis, but because it does good irrespective of syphilis. In addition, he might derive some relief from a blister applied behind the ear. A laxative might be given two or

three times a week, and if the headache prevents sleep he shall have some chloral hydrate at night.

ORIGINAL COMMUNICATIONS.

THE IRRITABLE HEART AND THE DEPRESSED HEART.

BY HENRY SALZER, M.D.,

Baltimore, Maryland.

(Continued from page 407.)

IN the description of the pathological consequences of this condition which is to follow, I trust the justification of this name will be found.

It is hardly necessary to state that many of the patients affected in this manner have never suffered from irritable heart. I have thought it not uninstructive, however, to contrast the symptoms of the two conditions, in order to bring out more clearly their differences.

Physical examination of persons after middle life, especially if they have a tendency to corpulence or are in easy circumstances,—*i.e.*, are not required to perform hard physical labor,—will often show a weak, or quite imperceptible, apex-beat. Life-insurance examiners frequently make this observation, but without attributing any serious meaning to it. If the area of dulness and the heart-sounds are normal, and other evidences of good arterial circulation are present, the asthenic apex-beat and the frequency of pulse are ascribed to nervousness, excessive use of tobacco, or the emotional excitement produced by the examination. The insurance official is probably justified in ignoring this symptom in many cases, for it is, in the early stages, not significant of pathological alterations in the heart or of diminished cardiac power. It has been likewise shown that the strong, sharp apex-beat of irritable heart is not an evidence of increased cardiac power, but a symptom of abnormal innervation. A strong apex-beat may likewise be present in conditions of great structural alteration of the heart, as in the striking case of Mrs. Tate related by Balfour.* This patient was over eighty years of age at the time of her death, and had long suffered from angina pectoris, for the relief of which hypodermic injections of morphine and inhalations of chloroform had been used. "After death, the aorta was found dilated, the orifice of the middle coronary artery—there were three in her heart—almost entirely blocked up by atheromatous deposit, and her heart not only thin-walled and somewhat dilated, but of a pale yellowish tint, soft, and thoroughly fatty; no muscular fibre could be more completely degenerated; yet chloroform produced in her no dangerous symptoms, and, far from shortening her days, seemed certainly to prolong them. I may also add that *her apex-beat was tolerably firm to the last.*"

This case proves that the force of the apex-beat has no relation to degenerative changes in the heart-tissue, and is not significant of such changes.

Several elements combine to produce the cardiac impulse: first, the impact of the apex of the left ventricle, which in contracting forms a hard, conical point, and, by a slight twisting motion during contraction, is thrown to the front and made to strike against the chest-wall; secondly, the recoil of the heart at the moment of the emptying of the ventricles.

The changes of position of the heart during systole and diastole may be compared to a "see-saw" motion. As the apex rises towards the chest-wall during contraction, the twisting movement above referred to causes the lower end of the ventricle to come to the front and impinge with some force against the ribs or intercostal space. If now, without any loss of force in the contraction, the twisting and turning forward of the ventricular apex is changed or diminished in extent, the impact against the chest-wall is diminished or perhaps entirely abolished. It will hence be readily understood how, in young persons with irritable heart but no restriction of the twisting movement or in the normal systole, the abrupt contraction of the ventricle forces the hard point or apex sharply against the anterior wall of the thorax, and produces the strong impulse and concussion which are such noticeable symptoms of an irritable heart. Even in fatty or atrophied heart the normal impulse may be maintained so long as the twisting upon the longitudinal axis of the ventricle takes place during contraction.

In older, fleshy patients, on the other

* Diseases of the Heart and Aorta, p. 285. Philadelphia, 1876.

hand, in whom the symptoms of nervous depression are more prominent, the abrupt, jerky contraction of the ventricles has given place to a more regular systole. In consequence of the overfilling of the venous system, to be presently described, the right ventricle is more encumbered by the mass of blood, and the twisting movement by which the left ventricle is brought to the front during systole is incompletely executed, and the apex does not strike the chest-wall with the normal impact. The slight concussion of the chest which may be felt is merely an expression of the cardiac movement as a whole. Although this symptom is also recognized as one of excentric hypertrophy of the right ventricle, there is no dilatation present in the cases above described. The right ventricle is merely filled beyond its average capacity, while the left is only normally, or less than normally, filled. Inasmuch as there are no actual changes of size and form in the heart as yet, the area of cardiac dulness and the point at which the apex-beat may be felt on deep inspiration and stooping posture remain normal. This normal place of the cardiac apex-impact is in the fourth or fifth intercostal space (oftener in the latter), about two inches to the left of the left lateral margin of the sternum. The heart-sounds are normal, with the exception of a sharp accentuation of the second pulmonary sound, which is due to the increased labor of the right ventricle.

We owe to Oertel the explanation of the turgidity of the venous system found in these patients. I am of the opinion, however, that this acute observer attributes too much importance to fatty heart, and assumes its existence in too many cases, while entirely overlooking the absence or weakness of the apex-beat in relation to the condition under consideration.

While acknowledging and valuing the labors of such masters as Da Costa and Oertel in this field, the careful and observant family-physician, with his opportunities of following the careers of his patients through a lifetime, may note facts or arrive at conclusions which, from their brief period of observation, are not available to the hospital physician or the consultant.

Professional persons, or such as are in easy circumstances, consume, as a rule, a quantity of liquid and solid food which would more than suffice for the nutrition of a stevedore or hod-carrier. The venous system of the abdomen is admirably adapted to act as a temporary receiver for the excess added to the blood by absorption from the intestinal canal. The abdominal veins are capable of taking up a quantity of blood equivalent to the average mass of the entire blood-supply of the body.

These veins, including both those of the portal and general abdominal circulation, together with the chyle and lymph-vessels, take up all absorbable, especially the liquid, portions of the food from the intestinal canal, and convey them into the right auricle, and thence into the right ventricle. If the heart is healthy, it soon disposes of the larger amount of blood passing through it by more rapid contraction. Inasmuch as both ventricles contract synchronously, it happens that the left ventricle is less completely filled at each contraction than the right. The arteries, in consequence, are distended, the pressure in them decreases, and a diminution in force and increase in frequency of the pulse result,—the former owing to the lessened blood-pressure, and the latter owing to the more frequent cardiac contraction.

But our fleshy patients may still maintain their health, because the excess of liquid taken in increases the activity of the skin and kidneys. If sufficient bodily exercise is taken, the rapid and energetic muscular contractions support the turgid veins and lymphatics, and aid in restoring the normal circulation. To accomplish this, regular and moderate bodily exercise is beneficial, while spasmodic or violent exertions, with long periods of rest, are vicious. Moreover, if to the overfilling of the veins and right side of the heart above mentioned be added the customary prescribing of large quantities of mineral waters and liquid diet, for the purpose of increasing the intestinal and renal secretions, the morbid condition will become more sharply defined.

The patient perhaps still takes active exercise occasionally, he perspires freely, his kidneys act fairly well; he is still healthy so far as a physical examination can determine, with the possible exception of slight catarrhs, neurasthenic symptoms, urine of high specific gravity but not containing albumen or sugar: in short, he presents the collection of symptoms above described as belonging to a case of depressed heart; although the insurance offi-

cial, basing his opinion upon the physical examination alone, and not looking into the future, would still be justified in accepting the individual as a good risk.

Should a favorable change now take place in the condition and mode of life of the patient; if he engage in more active exercise, stimulate the functions of the skin by means of baths and frictions, reduce the amount of food and drink consumed, and if the food be more thoroughly masticated and digested, then the abdominal veins will be less distended, the general vascular system better supported in moving the blood-current, the arteries better filled, and the entire circulation equalized. As in the other case all the circumstances combined to characterize more sharply the clinical picture of the depressed heart, so in this all these abnormal conditions gradually pass away, and after months, or possibly years (for improvement goes on slowly), the health may be perfectly re-established, thus justifying the favorable opinion of the insurance examiner to which we referred.

But should the consumption of solid food and liquids, even though the latter consist only of water or other indifferent liquids, continue, or if the amount of drink be increased in consequence of habit, thirst, or even medical advice, then the renal excretions decrease on account of venous congestion, the functions of the skin diminish through lack of exercise, baths, and frictions, the return of the blood from the lower portions of the body becomes impeded owing to deficient muscular contraction, and the heart, already predisposed to relaxation, is subjected to additional strain. The engorgement of the pulmonary circulation embarrasses the respiration, and thus diminishes the metabolic activity in the lungs and tissues. As a consequence, the products of suboxidation — uric and oxalic acid, urates and oxalates—are produced in excess, instead of urea.

The proposition of Weber—that the pulsation of the heart is not transmitted to the veins—loses its force here. The arteries, stimulated to excessive contraction in order to overcome the high blood-pressure in the capillaries and veins, begin to manifest the results in endarteritis and analogous pathological processes. The continued engorgement of the right ventricle leads to dilatation and compensatory hypertrophy of the right heart, which is followed by similar changes in the left heart. The hypertrophy of the left ventricle easily becomes greater on account of its greater muscularity, and because the already diseased arterial walls furnish an additional obstruction to overcome. The prolonged engorgement of the kidneys, acting upon the nervous supply of these organs, gives rise to increased secretion, and arterio-capillary fibrosis is established. The constant turgescence of the hepatic veins, together with the irritation of the parenchyma of the liver by spirituous drinks, may lead to excessive diapedesis of the accumulated leucocytes in the dilated veins and new formation of connective tissue, ending in cirrhosis; or the endarteritis produces miliary aneurisms or apoplectiform extravasations of various sizes, or scleroses in brain and spinal cord.

When these conditions are fairly established, the symptoms of depressed heart give way to the manifestations of organic disease, such as chronic gout, gravel, cirrhosis, Bright's disease, sclerosis, etc. When the morbid condition has progressed to this stage, restriction of food and drink and medicinal therapeutics may arrest it, but can no longer cure. The insurance examiner who passed the individual made a grave mistake in overlooking the symptoms of depressed heart and ignoring their possible consequences.

According to my experience, the favorable ending first described above is exceptional, unless the individual changes his mode of life. Now, inasmuch as the insurance examiner would be exceeding his privileges if he attempted to act as medical adviser to the applicant, the former should, in the interest of the company, be exceedingly cautious in accepting as good risks persons with weak or imperceptible apex-beat combined with the other phenomena of depressed heart. He should, at least, take into consideration the applicant's occupation and mode of life.

The current opinion that corpulence alone will cause weakened cardiac impulse is not confirmed by my experience and observation. If the cardiac innervation be normal, and the heart neither engorged nor underfilled, so that the twisting of the left ventricle takes place to the front during the systole, the apex-beat will be distinctly perceptible, even if a considerable thickness of adipose tissue interposes between the heart and the examining finger.

A few points in regard to the therapeutics of this condition may be here added. Each case must be thoroughly studied, and treated according to the special indications. Restriction of fluid and increase of solid food cannot be ordered indiscriminately, because the excessive consumption of liquids is not the sole cause in all cases. A very corpulent female patient whom I had under treatment for depressed heart illustrates this very well. The quantity of fluid ingested daily did not exceed two pints; the patient ate comparatively little, and was kept pretty actively employed during the day by her household duties. The only abnormality in her dietary that could be discovered was that the liquid consumed consisted of very strong coffee and that she ate much confectionery between meals. The medicinal treatment consisted of a placebo, but the sweetmeats were strictly forbidden and the strong coffee substituted by weak tea or *café au lait.* The morbid phenomena have after a few months' treatment entirely disappeared, and the apex-beat is again becoming distinctly perceptible. As a rule, corpulent persons are habitually thirsty and liable to overload the venous system by yielding to the demand for fluids. Hence the first therapeutic indication is to endeavor to equalize the ingested and the excreted liquid. If a true gastric catarrh exists in combination with the other symptoms, it will often be necessary to order a fluid or semi-fluid diet, but it will be of prime importance in these cases to stimulate the excretory organs. Baths, frictions, exercise in the open air, gymnastics, massage, or faradization will be indicated in addition to supervision of the dietary. The fluids ingested should be such as will act as stimulants to the secretory functions of the skin and kidneys, but it will be better, on the whole, to reduce the quantity of liquids taken than to consume them in excess and afterwards remove them from the body by evacuants (laxatives, diaphoretics, etc.). A proper reduction of the amount consumed will diminish the mass of venous blood, while active exercise in the open air, especially moderate mountain-climbing, will promote the arterialization of the blood. The food should be easily digestible, and should exclude such articles as are prone to form injurious compounds in the body,—for example, tomatoes, which are so rich in oxalates.

According to Flint, the average quantity of fluid consumed is from fifty to sixty ounces. This should be sufficient for an active working-man in summer. In winter, for one less actively employed, half of this should suffice for all demands of the economy. The physician must exercise common sense in regulating the quantity of fluids consumed in accordance with the patient's condition and mode of life. Hard and fast rules are not applicable here.

When the above indications are correctly appreciated and consistently carried out, the results obtained are often very surprising and gratifying. After a month or two of the treatment, the quantity of urine increases relatively to the amount of liquid drunk and the specific gravity approaches more nearly to the normal figure, the uric acid diminishes, the moist eczemas disappear without special treatment, the joints lose their stiffness, the muscular movements become more elastic, the sexual desires and powers return, and after from four to six months a decided improvement in the force of the apex-beat is noticeable.

The objection may be raised that many persons eat much and drink still more, and yet retain their health. But these persons are endowed by nature with a resistant organization which enables the circulatory and excretory organs to withstand the evil effects of temporary strain. Their mode of life is such as to preserve a proper relation between consumption of food and excretion of excess of fluid and the products of metabolic activity. *When, however, these individuals change their habits, and, instead of taking a reasonable amount of bodily exercise, sit and drink by the hour, no matter whether the drink be wine, beer, cider, or water* (*stronger liquors are, of course, out of consideration altogether*), *without a corresponding increase in the renal secretion, they are soon driven to consult a physician for the relief of the symptoms of depressed heart.*

Another point may be here referred to. There certainly are persons who, in spite of great moderation in eating and drinking, become very corpulent, although according to my experience they are rare exceptions. In these cases I have always found an apex-beat of normal force, or, at all events, strong enough to be distinctly felt. Where the latter was imperceptible, some

other disturbance of the circulation could easily be discovered on careful investigation.

It is not asserted that a distinctly perceptible apex-beat is to be considered as a certain indication of a healthy heart. Slight displacements of the heart due to previous changes in the thorax may cause the apex-beat to be felt in the normal situation, although the heart may show distinct disease. The case above quoted from Balfour is also in point.

I have endeavored to point out in this paper the importance of attributing a weak or imperceptible cardiac impulse, when joined to the other symptoms mentioned, to a depressed heart. It is extremely important to the patient that this condition shall be early recognized, and its causes sought out and removed before the beginning of organic changes. The causes will generally be found either in the consumption of too much food (fluid or solid), lack of exercise, lack of attention to the skin, too little fresh air, indigestion from deficient mastication, too rapid eating, improper or irritating diet, mental and physical overwork, abuse of the natural powers, excessive use of coffee, tea, or tobacco, or in a number of these combined. The removal of these causes is the first indication in treatment. The use of medicines is secondary.

In conclusion, it may be stated that exact sphygmographic and cardiographic observations, as well as correct time-measurements of single heart-contractions both in the irritable and in the depressed heart, are beyond the range of possibility to a family physician. Competent hands should take up this work, and by exact scientific observations check the clinical experiences which I have here set down.

REPORT ON THE PROGRESS OF OTOLOGY.

BY CHARLES H. BURNETT, A.M., M.D.,

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(Continued from page 409.)

CARIES OF THE MASTOID.

W. KIRCHNER (*Würzburger physicalisch. med. Gesellschaft*, and *Archiv f. Ohrenheilk.*, Bd. xxiv. p. 61, 1886), in examining the ear of a young man who was in a surgical clinic on account of gangrene of the muscles of the neck, found an extensive carious destruction of the mastoid portion which had been caused by the gangrene. A post-mortem examination revealed that the mastoid portion was nearly entirely destroyed, the sinus transversus exposed for a space of three centimetres, and also that a large destruction had occurred in the external auditory canal. The membrana tympani was nevertheless intact, and the tympanic cavity contained but little pus and its mucous membrane was but little thickened.

RUPTURE OF THE INTERNAL CAROTID ARTERY SUBSEQUENT TO NECROSIS OF THE TEMPORAL BONE.

Dr. T. Y. Sutphen, of Newark, New Jersey, gives an account of a fatal result from the above-named causes (*Archives of Otology*, vol. xv. No. 4, 1886). The patient was a man 25 years old. When a child he received a blow upon his right ear, which, resulting in a discharge, continued with varying intensity until the time of his coming under recent observation. An abscess beneath the ear had formed some years previous, and, forming again, he had sought relief. Examination revealed a swollen condition of the auditory canal, a tympanic cavity blocked with granulations, and the probe revealed the presence of denuded bone. The abscess beneath the ear was shown to communicate with the tympanic cavity. In the course of five months from this observation by Dr. Sutphen, the patient was again seen as an inmate of the hospital, when it was ascertained that facial paralysis on the right side had made its appearance about three weeks previous, and that within three days the left side of the body had become paralyzed. Severe pain in the right side of the head, dizziness, and nausea were complained of. The patient would not permit any operation for the removal of dead bone. Under tonics and hot fomentations to the ear the patient recovered the use of the paralyzed side, and in three weeks left the hospital. The facial paralysis and the otorrhœa remained.

In the course of a month after his departure from the hospital, the patient returned to the clinic, reporting an exacerbation of headache and vomiting. Bromides were given, and fomentations applied over the affected ear. In the course

of ten days there was a profuse hemorrhage from the ear, followed by cessation of pain and an increase in the purulent discharge. Numerous hemorrhages occurred in the course of the subsequent five days, and finally he became very weak and pale from loss of blood. Patient sank in five days, death being preceded by intense pain in the back of the head and down the neck to the shoulder on the right side, accompanied by some delirium.

The post-mortem examination revealed the following: "The temporal bone in the region of the middle ear had been changed into one large carious cavity, containing a sequestrum irregularly oblong in shape, one inch in length, and about seven lines in breadth and thickness." There was necrosis of the internal auditory canal, involving the auditory nerve. On removing the sequestrum, an opening was found in the carotid artery, the walls of which were softened. Opposite the internal meatus there was an abscess-cavity in the cerebellum, containing a drachm of dark, thin pus. "Adjacent to this, above and anteriorly, was a mass of cicatricial tissue, occupying the entire thickness of the gray matter, cut with difficulty, and presenting a discolored, uneven surface, probably the result of an abscess which had healed. The fourth ventricle contained an ounce or more of dark serum. On the superior surface of the cerebellum was a large discoloration, showing evidences of a former localized meningitis. The brain in all other respects was healthy."

It is maintained by the writer that there was no hope of relief in any operation in this case.

PISTOL-SHOT WOUND OF THE RIGHT MASTOID PROCESS.

Dr. Gorham Bacon, of New York City, gives an account of this rare accident, occurring in a woman 23 years old (Transactions of the American Otological Society, July 20, 1886). The wound occurred by the accidental discharge of a pistol six feet from the patient. The ball struck her just behind the ear and entered the mastoid process, being embedded in the cellules near the antrum. Four months after the accident the patient was etherized, and a sequestrum, which had found its way into the right auditory canal, was removed. An opening was made from the auditory canal into the mastoid cells, and pieces of the bullet were removed; but, this opening not being large enough, the mastoid cortex was trephined. Some pieces of bone were removed through this opening in the mastoid, and the bullet was distinctly seen lying against the mastoid antrum. The operation was now interfered with by symptoms of collapse on the part of the patient.

In the course of two days the patient was again seen, and some traction made upon the bullet, but, as this caused pain and the patient would not be again etherized, all further attempts at removal of the bullet were stopped.

After treatment of the case as an outpatient for two weeks, it was observed that the mastoid wound was healing, the bullet remaining in the mastoid. The patient soon disappeared entirely from the clinic, and all trace of her was lost.

WOUND OF BOTH EARS BY PISTOL-SHOTS.

M. Rollin, interne of the Hôpital Bichat, gives an account of gunshot-wounds of both ears, occurring in the service of M. Terrier, as the result of an attempt at suicide in an insane man, 27 years old (*Annales des Maladies de l'Oreille*, December, 1886).

At the time of his admission to the hospital there was considerable hemorrhage from both ears. The patient was semi-comatose. Without any examination, both ears were plugged with iodoform gauze. The next day the temperature of the patient rose to 39° C. (102° F.), but in the course of a week fell to 37° C. (98° F.), and the patient became less dull. It was then found that deafness was absolute on both sides. There were soon observed symptoms of facial paralysis on the left side, which increased and became complete in the next few days, comprising the orbicularis palpebrarum, and demonstrating a lesion of the facial within the petrous pyramid. The cheek became flabby, the eye remained open during sleep, and mastication became difficult. In a month from his admission, an abscess formed above the right masseter muscle, in front of the auditory canal. The incision liberated a large quantity of thick, reddish pus. In the course of a few days, after the abscess had healed, a probe introduced into the right ear encountered a metallic substance two and a half centimetres from the opening of the canal.

Six weeks after the wound, the mental condition of the patient was a little better; the deafness, however, remained absolute, and trophic changes had begun in the left eye, on the paralyzed side. The eye became red and painful. His mental condition now grew very much worse, and, although continuing so, M. Terrier decided to undertake the extraction of the balls. The operation was performed somewhat over two months after the accident.

An incision was made, following the posterior auricular groove, and the auricle was loosened and drawn forward. The auditory canal was then cleared out and "scraped with a gouge, not without difficulty." The ball was then extracted, very much misshapen. Catgut sutures were then inserted, drainage of the auditory canal maintained, and the parts dressed with iodoform and carbolic acid. In a few days the wound healed. The general condition of the patient, however, became worse: he grew thinner, and the cornea of the left eye became uniformly opaque. He then became better in the course of a month, and remained so for a time, when suddenly his insanity grew worse. In about six weeks after the first operation it was decided to endeavor to extract the ball from the other side. The ball was found here at a depth of five centimetres.

The procedures were the same to reach the position of the bullet, though the hemorrhage was greater, in consequence of the deeper incisions necessitated by the depth of the ball. Some pieces were extracted, but when forcible traction was made upon the bullet a copious gush of bright red blood put an end to further interference, as it was supposed the hemorrhage came from the wounded internal carotid. Before resorting to ligation of the primitive carotid, M. Terrier made a firm tampon of iodoform gauze in the external auditory canal. After this the mental condition of the patient improved considerably, but this was only of short duration, and the case was placed in an asylum for the insane.

The left eye finally sloughed out; from the left ear a slight discharge still issued, and a probe encountered, at a depth of four centimetres, denuded bone and granulations.

The right ear healed entirely. The deafness on both sides remained absolute.

THE GYMNASIUM AS AN AID TO THE PHYSICIAN.

BY CHARLES McINTIRE, JR., A.M., M.D.,

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I HAVE no doubt that many of the readers of the *Times*, as they read the caption of this article, will recall *Punch's* suggestion that every foot-ball match be attended by an ambulance and a staff of surgeons, and will think of the possible fractures and more probable bruises. That would be of very material aid should they occur in one's practice. But these words are not used to convey such pleasantry. Indeed, definitely-prescribed exercise is the thought that is to be considered, whether it be had in or out of a gymnasium.

Experience is rapidly demonstrating—if it has not already done so—that there are many poorly-shaped, unequally-developed, and under-normal men (possibly women, too), besides others in whom there is not a proper harmony between blood and nerve, or brain and brawn; and that these people are continually breaking down, or using up, or are threatening to; and that the maladies expressing their condition are more difficult to cure because of this lack of harmony, or of some well-marked departure from a normal organism. There is a difficulty to secure the proper quality of blood, or to prevent excessive wear and tear,—not from any want of skill on the part of the physician, but from the condition of the patient himself. It is in this class of cases that the gymnasium frequently gives valuable assistance; in many cases as a prophylactic, in others directly as a curative agent. But when we speak of a gymnasium our minds must not at once picture double-trapeze acts, tumblings, and other feats of the circus-ring. These are unnecessary, often forbidden. We must think of the lighter instruments,—the pulley-weight of various kinds, and other apparatus adapted to the weakest, and capable of being used to exercise certain muscles and produce definite results. A man is blue from an attack of indigestion: "Fling but a stone, the giant dies," says Sterne; but hardly with truth. The stone may hurt him, but hardly despatch him. Slings as instruments of warfare are obsolete, and it is necessary to use something adapted to

modern habits. Let us plan and execute some means of exercise that will strengthen the abdominal muscles,—not neglecting other things, of course. We will thereby change the condition so that instead of feeling a soft, non-resistant, springless mass when the abdomen is touched, we will find firm muscular walls whose very touch is elastic and betokens strength; and in so doing you will, in many a case, change the condition of the parts under the abdominal walls, and a decided eupepsia will have supplanted the former condition of dyspepsia.

In the use of gymnastic appliances it is necessary to study each case for itself. The gymnasium provides neither a panacea nor a specific; and there are many forms of exercise which, comparable to the old saw, "One man's food is another's poison," are often harmful to an individual, and should by all means be forbidden. Usually, however, our patients' sin in relation to exercise is one of omission, and not of commission: so that our duty more frequently is positively to direct the exercise to be taken, rather than forbid the use of any form of exercise. Thanks, however, to the workers in this field of study, we have learned that exercise is complex in character, and, when prescribed as a therapeutic measure, should be selected with as much care as is any drug. The use of a certain set of muscles alone will deform a well-built man; the use of that same set may be necessary to bring into harmony an unsymmetrical one. The point that it is desired to emphasize is, that telling a patient to take exercise, or a definite amount of exercise, is not enough, but we must prescribe its character as well; and, as in all remedial methods, we must be careful to have a very clear view of the end to be accomplished before we prescribe. The man who gives a prescription simply because it is said "to be good for" some disease will probably not find much good result from adding muscular movements to his list of remedies; but that one who studies out his cases and sees that it is desirable to obtain a definite result, which he thinks can be brought about by a certain line of treatment, will frequently find that definitely-prescribed exercise will be a great help. The use of Dyer's method of exercise in asthenopia will illustrate this, although it would not ordinarily be classed among gymnastic performances.

In our thoughts about exercise we must remember that the muscles are not alone acted upon, but the blood-vessels, nerves, and other tissues as well; and frequently we have here a valuable aid, enabling us to secure otherwise impossible results.

It might be inquired why such positive assurances are made of the excellent results to be obtained from the systematic use of exercise. The reasons are plain. There is, first, this departure from a normal standard of the individual, alluded to earlier in this article. Any one will accept the statement that there is a relation between the size, *e.g.*, of the lungs and the height of an individual which will permit the highest degree of health; and then it follows that any departure from this relation by so much prohibits the highest degree of health,—by a very small quantity, perhaps, but still by some quantity. Now, if in an individual this relation does not exist, and by your exercise you make the relation more nearly the normal one, you strengthen the individual; and what is said of the relation of lungs to height is also true of all the proportions of the body.

If any one desires to study this idea of a normal standard further, I would refer him to the writings of Dr. Nathan Allen, of Lowell, Massachusetts, who has very carefully and thoroughly presented many phases of the subject.

Selected exercise, then, brings man nearer his normal proportion. Then, again, there is comparatively little of this kind of exercise given; so that we have fallow ground to work upon, which will very probably yield us large and favorable results. The proof that too little developing exercise is taken lies in the fact that so many people are poorly developed. A fine-looking, well-developed man is a matter of observation and remark on our streets. And from the results obtained whenever developing exercise has been employed upon persons as ordinarily seen, it is fair to conclude that if such exercise were used to any great extent there would be more individuals seen who were well developed.

Of course, much of this aid to our profession will be in the line of preventive medicine,—probably the highest form to practise. By building up the proportion of strength and functions of the body to a normal, there will not only be fewer attacks of disease, but many forms of disease will be better resisted.

A statement made by Dr. Morgan in his "University Oars" is wellnigh worn threadbare by oft quotation, but so apt is it here that I venture to use it. In speaking of increasing the size of the chest, and thereby of the lung-capacity, if in an attack of pneumonia, "these additional fifty inches will amply suffice to turn the scale on the side of recovery. It assists a patient successfully to tide over the critical stage of his disease."

This exercise for development can be secured by free movements alone,—*i.e.*, without any apparatus whatever; although some allege there must be some weight moved in order to cause exercise to avail for development. Without discussing this, it is certain that free movements can produce fatigue. One may, however, use dumb-bells or wands: a cane will do. Some one of the numerous forms of pulley-weights—any of these can be made useful; some are more convenient than others—will form one of the best means of procuring definite exercise, on account of the ease of directing the character of the movements. An expenditure of from five to six dollars or more will enable any one to set up an apparatus for muscle-development in their own home. The price of a dozen bottles of "Syrup of the Hypophosphites" or "Peptogenitic Elixirs," under any of their numerous aliases, will amply pay for one, be much more agreeable to take, and prove in most cases fully as efficacious, to say nothing of the greater value of the apparatus when compared with the empty bottles. Of course, when it is possible, it is better to send our patient to a gymnasium, where there are trained instructors and a variety of apparatus. We do not hesitate to consult the ophthalmologist or the neurologist: why should we hesitate to confer with the physician in charge of the properly-conducted gymnasium?

My experience during the three years since the opening of the gymnasium of Lafayette College, in the line of consultation and correspondence with various physicians concerning students who are or have been their patients, in order to arrive at a proper prescription for exercise, convinces me that a very respectable proportion of the profession are neglecting to inform themselves of a very important aid in combating disease; and because of this conviction, and in the hope that it will cause some at least to give the subject the attention it deserves, this article was written.

EASTON, PA.

TRANSLATIONS.

ON THE PHOTOGENIC FUNCTION OF PODURIDES.—At a recent meeting of the Biological Society, M. Dubois communicated the following note on the photogenic function of podurides. The faculty of producing light, says the author, is more generally distributed among terrestrial animals than is generally supposed. Every one is now acquainted with the photogenic power of Lampyrides and Elaterides; it has also been detected in Myriapodes, but only by a few observers. On the contrary, there exists but one observation of this kind relative to Podurides, which is due to Professor Allman, and was published in 1850. That savant was the first to observe luminosity in the individuals of the species *Anurophorus fimetareus* (*Leptura fimetarea*, Linn.), in the month of February, on Howth Hill, near Dublin. They were profusely distributed in this place, and the thick piles of dung which were to be found here in great numbers were the only places where they were not to be seen.

Last October the author likewise found luminous podurides in precisely the same locality and at the same time in which he discovered the phosphorescent myriapodes which formed the subject of a preceding communication: that is to say, in the environs of Heidelberg, near the village of Handschuhsheim. In stirring up the humus in a hop-field, the author was surprised to find the soil covered with very little luminous stars, brilliant enough to be distinctly seen at a distance of about forty centimetres on a dark night (it was about nine o'clock in the evening). These little lights were so numerous in places that one might have easily imagined one's self on a beach whose sand was filled with noctiluces. An examination of a portion of the earth with an ordinary lens showed the presence of a small white insect, about three millimetres in length. Having selected a few individuals among the number and put them in a watch-glass, the author discovered that they possessed the faculty of emitting light, and that they

retained this faculty till death. Although the author was enabled to observe them during several consecutive days, he failed to discover the least sign of the localization of a luminous centre; the whole body of the insect appeared luminous.

Mechanical excitement, heat, and the agitation of the animal visibly augmented its photogenic power. In a general way, they offered the same physiological reactions as the other luminous beings previously observed. The light emitted was bluish, like that of the stars; but, for the want of an instrument, a spectroscopic examination could not be made. On crushing the insects upon a piece of litmus paper, it was plainly seen that the contents of the body were abundantly provided with luminous substance, which gave a manifest acid reaction. This point is important to note, because it establishes a fresh analogy between the luminous substance of pyrophores and of lampyrides; and, on the other hand, it constitutes an objection which no longer permits the acceptance of M. Radzizewski's theory, since the photogenic reactions obtained by that chemist *in vitro* are produced only in an alkaline medium. The luminosity remained for several minutes on the paper where the insect had been crushed, even when wetted with a slightly acid liquid; while ammoniac vapor caused it to disappear immediately. When some of the crushed substance was placed upon the tongue, a manifest sensation of acidity was felt, together with a taste recalling that of certain mushrooms; the odor was similar to that of rotten wood and of the vegetable detritus wherein they lived.

These insects belong to the group of Podurides, and, although they resemble in some respects the *Lipura ambulans* of Lubbock and Tullberg, they should rather be regarded as belonging to the species *Lipura armata* (Tullb.), on account of the three ocellated points at the base of the antennæ. This peculiarity was observed by M. Gazagnaire in the entomological laboratory of the museum, while the author was only able to find two post-antennal oculated points upon very similar individuals found in Paris, and which M. Gazagnaire considers as representing the species *Lipura ambulans* (Tullb.). In spite of the great similarity between the *Lipura ambulans* and the *Lipura armata*, the author was unable to discover the least trace of luminosity in the latter species; but he does not consider the test as final, as he only observed them at the end of November.

A striking peculiarity in these insects is the fact that their bodies are filled with irregular lobes having great refracting power; and in polarized light, when the Nicol prisms are crossed, these lobes show that peculiar aspect which is observed in the luminous organs of pyrophores and lampyrides, and which is found in the digestive tube of luminous myriapodes. These lobes form, on the surface and on the sides of each ring, salient points, which have been taken for stigmata. Lubbock, on the contrary, considered them as adipose tissue. This also is the author's theory regarding them, in spite of the authority of Tullberg, who looked upon them as *systems of urinary canals*, "which seem to resemble the ramified glands of Malpighi in certain acari, but which differ from them in not having canals with an opening."

To these singular urinary canals without an opening Tullberg found an enveloping membrane, composed of two layers, one external, orchist, and the other internal, cellular, and precisely in this same *Lipura armata* which presented the phenomenon of luminosity. The author endeavored in vain, by means both of section and of dissociation, to discover this enveling membrane composed of two layers; and, moreover, it was easy to see, by a simple examination of the preparations and by the figure given by Tullberg, that these parts, as well as the lobes, should be considered as adipose tissue. These lobes are composed of cells of the same nature; but those which are situated in the centre of the lobes are filled with rounded granulations, which Tullberg erroneously considers as urinary concretions. These granulations are not agglomerated in a canal, but in cells having an irregular contour, without an apparent membrane, and sometimes connected with one another by connective-tissue prolongation. These granulations and the cells which contain them are thoroughly comparable to those which are found in the luminous organs of pyrophores and of lampyrides, and the cellular wall of the pretended urinary canal is constituted by cells which as yet have no rounded granulations, and the nuclei may easily be distinguished after coloration.

Also, great importance should not be given to the presence of uric acid, which, according to Tullberg, had been observed by Professor Allman, because it is well known that almost all the parts of insects contain more or less of it. These granulations present peculiarities that are extremely curious. They have generally been considered as particles of urate of ammonia animated with Brownian movements. The author formerly considered them as unorganized particles containing guanine or a very similar substance; but more recent observations have caused him to change his opinion, and this will be the subject of a future communication.

Influence of Solar Rays upon Microbes.—At another meeting of the same society, M. Straus made a communication respecting the action of luminous rays upon microbes. M. Arloing has stated that the spores of the bacillus anthracis, placed in cultivations of broth and exposed to the sun, are destroyed; whereas vegetating mycelium resists a much longer exposure to the solar rays.

This fact is interesting if the resistance of these spores to all influences is borne in mind. MM. Nocard and Duclaux advanced the hypothesis that the solar rays acted much more upon the cultivation than upon the spores. M. Straus has confirmed this hypothesis in the following manner. The spores, placed in pure distilled water, resisted the action of the solar rays to which they were exposed for four hours; placed in broth, they were destroyed at the end of two hours.

M. Duclaux stated that he had observed, in some similar experiments he had made, that the period of two hours, which is sufficient to destroy young spores, is not sufficient to destroy spores two or three years old. M. Straus stated that his experiments were made with spores two or three months old. M. Duclaux's experiments were made with much older spores.

M. Chaveau added that spores of the bacillus anthracis when two or three months old can be considered young.

The Treatment of Phthisis by Inhalations and Injections of Carbonic Acid Gas.—Dr. Dupont, in a communication to the *Bulletin Général de Thérapeutique*, calls attention to the fact that Priestley first recommended the use of fixed air by injection into the rectum as an "antiputrid agent." This method, however, is unpleasant, troublesome, and less rational than inhalation by the mouth, which possesses all the advantages with none of the drawbacks of gaseous lavements.

The advantages of this mode of treatment are (1) that carbonic acid is antiseptic, and is useful in overcoming the tubercular septicæmia; (2) it is anæsthetic, and quiets the cough; (3) it is a supplemental food, reducing oxidation and lowering temperature; and (4) it stimulates the digestive organs.

Helenine in Diphtheria.—Helenine, obtained from the root of the elecampane, is a concrete, volatile, fatty substance, in white crystals of an aromatic odor and a bitter taste. It is insoluble in water, but soluble in alcohol and ether. Dr. Juan B. Obiol (*La Crónica Médica*), on account of the well-known antiseptic properties of helenine, has tried it in diphtheria. He applied powdered camphor to the patches of false membrane, and dressed with a solution of helenine in oil of sweet almonds. This treatment is aided by the administration of helenine internally in doses of a grain and a half for six-year-old children, being careful to avoid causing vomiting. The dressings must be made daily by the physician, and, when the disease is treated from the first appearance, twenty-four hours is generally sufficient to bring about a cure. At the end of five or six days of invasion, it will be necessary to continue the treatment for eight or nine days. Five or six days later the treatment ceases to be useful. Albuminuria does not occur: constipation is the rule.—*Nouveaux Remèdes.*

The Care of the Subscapular Nerves in removing Enlarged Glands from the Axilla.—Professor Kuster directs attention to the fact that, in cleaning out the axilla after extirpating a cancerous breast, great care should be taken not to injure the subscapular nerves supplying the subscapular muscle, the teres major, and the latissimus dorsi. He had seen cases where these nerves were injured, in which the movements of the arm were so restricted that the patient was unable to fasten her clothing. Since he has paid proper attention to the protection of these nerves he had not seen such results following the operation. — *Centralblatt für Chirurgie*, No. 11.

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EDITORIAL.

THE PERSONAL EQUATION IN THERAPEUTICS.

THE temptation to become oracular upon the basis of one's personal experience has been an ever-present one to practitioners of medicine. The Scotch Professor of Anatomy who always referred to his personal peculiarities in order more forcibly to impress his lessons upon the attention of the students is by no means an isolated instance of this kind. The story is somewhat broad, but is happily characteristic of the type of medical man who sets up his own stomach and its propensities as the infallible guide to be followed in directing the dietary of his patients. A typical example of this kind, which might be termed the *argumentum e ventriculo suo,* is just now on its rounds in the medical press, to the effect that "Dr. —— gives notes of a personal experience of nine weeks' illness from typhoid fever, during which he experienced a distinct aversion for food. He argues that this disinclination for food should be respected, and that nourishment should be given to fever-patients only when they call for it."

This opinion is attributed to an eminent Western surgeon and practitioner. While this may be regarded as correct doctrine in his own individual case, we decidedly dissent from the deduction that the experience is a proper guide for other physicians in all cases. One swallow does not make a summer; neither is experience in one case a sufficient warrant for establishing a general rule which shall apply to every patient suffering with a certain form of disease. Since the day of Graves, the systematic feeding of fevers (often forced feeding) has become a general practice, and, when intelligently followed out, has yielded most beneficial results. It was, in our estimation, one of the greatest merits of the late Professor Flint that he so strongly insisted in his writings upon the necessity of supplying proper and sufficient food in all cases of acute disease, without regard to the desires of the patient.

But the proposition which we would especially contest is that any one individual's stomach is a guide for all others. We know a physician who forbids apples, pears, and grapes to all his patients, even when convalescent, because, forsooth, he cannot eat them himself without hypogastric discomfort. Another thinks that eggs in any form must be injurious to the sick because he cannot digest them when well. Still another banishes milk from the dietary of his fever-patients, and would keep them alive on the only spoliative dietetic article known,—namely, beef-tea. In no other way perhaps is the influence of the personal equation shown more directly than in the various recommendations to patients with regard to the use of tea or coffee and alcoholic liquors.

Physicians frequently meet digestive idiosyncrasies in their practice. In fact, their existence long ago attracted popular attention, and became emphasized in the popular proverb, "What's one man's meat is another man's poison." These cases are not sufficient, however, to prevent the establishment of general rules of dietetics. Even the popular proverb quoted is erroneous when generally applied, for it is a fact that what is good for one is good for all as a general rule, to which, however, we must be prepared to find exceptions. Such a rule, in order to have practical value, should be established by a large series of experiences, and the verdict of the individual stomach, whether it belong to peer or to professor, should be rejected as a criterion in dietetics.

The problem of the digestibility of any article of food in any given case is to be decided by the capacity of the patient's stomach, and not by that of the physician, however authoritative or imperious its dictates in forming his own personal equation.

THE TYRANNY OF THE SCHOOL.

THE leading position in the April number of the *Popular Science Monthly* is given to an address delivered by Dr. William A. Hammond before the Nineteenth Century Club of New York, on "Brain-Forcing in Childhood." Dr. Hammond points out the great injury done by the cramming process to the undeveloped brains of young children, and then shows the absurdity of many of the studies with which school-children, especially girls, are burdened. He animadverts upon the mistake of giving children too many subjects to study at the same time, and illustrates the point by referring to the bad effects of "cramming" as indulged in by medical students. He says, "I speak from personal experience when I say that I am aware of the most lamentable results of the 'cramming' process in medical students. I have been a teacher in medical schools for nearly twenty-five years. In the course of my examinations it has often happened that I have put a question in one branch of medicine to a candidate for graduation and have received an answer in an entirely different branch."

The absurdity of the answers sometimes given by medical students during the final examinations would be amusing if it were not so frequently an evidence of the pernicious methods to which Dr. Hammond here refers. This is exemplified in almost every examination of students for the medical degree.

We entirely agree with Dr. Hammond in his scathing denunciation of grammar as a subject of study in schools. We would willingly see it "banished from all schools," and would not even except, as he does with a reservation, "the senior year of a university course." No child, he truly says, "ever learned to speak good English from studying grammar. It has driven many a poor little wretch into headaches and other nervous troubles. It is the most ingenious device for forcing an immature brain into early decrepitude that the cunning of man has yet devised. The only reason why it does not do more harm is that not one in ten of the pupils that come out of our schools know anything about it."

In addition to grammar, we would like to banish from all schools that "idiotism" called "mental philosophy," which no sane boy or girl ever can comprehend; and, from girls' schools especially, geometry and trigonometry, which not one in five hundred understands, and not one in ten thousand has any use for in after-life.

We do not plead for a grossly utilitarian scheme of studies in the schools. That would be equally absurd with the present system. But, as professional men, conversant with the evils to physical and mental health which characterize our present public school methods; as citizens, interested in the highest development of the men and women who shall represent our national life; and as parents, solicitous for the well-being of our offspring, we have a right to demand that school boards and teachers shall heed our warnings. Among physicians and students of hygiene this question has been long discussed and reforms agitated. Dr. Hammond has preached his lay sermon to a wider congregation. Let us hope that his exhortation will bring those in fault to an early repentance.

ARCHIBALD MALMAISON has a counterpart in real life. A preacher, sixty years of age, left his New England home, settled in Norristown, Pennsylvania, and went into business. Six weeks later, consciousness of his identity suddenly returned to him. A further account of this will appear shortly.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

TREATMENT of Pleurisy in Paris.—A recent clinic of Professor Jaccoud's and a long discussion at the Société Médicale des Hôpitaux upon the treatment of pleurisy permit us to communicate the ideas of prominent medical men here with regard to this disease in its different manifestations. Professor Jaccoud spoke of the "Indications for Thoracentesis in Acute Pleuritis." He presented two patients, and instituted different treatment in each one. The patients were both wagon-drivers, one aged 30 and the other 40, and both had had apparently good health up to the present attack of acute pleurisy with considerable effusion. One of them had entered on the eleventh day and the other on the sixteenth day of illness. In both of them signs were found of tubercular alteration at the summit of the lungs, and therefore the prognosis was not very favorable as to ultimate results. The only apparent difference between them was that No. 29 had slight fever, and in No. 12 the disorder was apyretic. Then as to the quantity of liquid there was a difference. The effusion in No. 29 was already large when he entered, and it continued to increase almost under the eyes of the attendants, filling the pleural cavity to completion, as the percussion-sounds showed; while in No. 12 the liquid did not occupy more than the inferior two-thirds of the thoracic cavity; but it was on him that Dr. Jaccoud practised thoracentesis, while abstaining from doing so on the other patient. The only reason he gave at the time was that one was a right pleurisy and the other a left; but now he explains his action as follows: "It must be always remembered that dyspnœa is not the only indication for thoracentesis. Certainly it is a very important one when it exists, and when caused by the effusion; but there are plenty of patients, like these two, who have no dyspnœa at all, and a particular interest resides in such cases as regards the opportunity of paracentesis. First of all, the side must be taken into account. In right pleurisies there is no immediate danger, as a rule, and, if the febrile process has not ceased, internal medication can be tried with a fair promise of success; but if the patient be not seen until it is too late,—that is, when all the febrile disturbance is over,—then nothing can be hoped for from medicine, and aspiration becomes obligatory at once. In left-sided cases of effusion, without dyspnœa, the principal point is to notice the quantity of the liquid and the displacement of the heart and other organs; the functional symptoms are not of so much account. If the patient has arrived at the apyretic stage, and there is no displacement of the heart or liver, then wait; and this is why the therapeutics differed in the two cases. In No. 12 the indication was to operate at once. The effusion occupied two-thirds of the cavity, but the heart was displaced to the right at least two fingers' width from the right sternal side.

"However, notwithstanding these practical rules, if you have a doubt about this matter, always practise thoracentesis in any given case; because, when properly performed, it is always an innocent operation. But do not forget the precautions that Professor Dieulafoy often speaks about: which are, *never to empty the pleural cavity entirely*, nor allow the liquid to flow out too quickly. Give time for the lung to expand, and stop if the cough becomes too fatiguing; because it may be caused by the influence of the air compressing the lung. This is the indication to stop the discharge of fluid; but, as a rule, the quantity should not be over twelve to thirteen hundred grammes (over a quart). The classic precept given is to make the puncture in the axillary region; but this must vary with the patient, and it should be practised in the region where there is the greatest effusion. The second patient, who was not aspirated, was submitted to the tartar-emetic treatment, with drastic purgatives, and from the administration of thirty grammes of the *Eau de Vie Allemande* (a tincture of jalap and scammony) and thirty grammes of syrup of buckthorn (Rhamnus catharticus) he rapidly improved."

The case presented for the consideration of the Medical Society was one of M. Debove's, which he called *latent purulent pleurisy*, and a discussion took place about the treatment of such cases. M. Debove himself said that the patient was a man of about 30, who had been ill for six months, more or less, before he came to the hospital, but his malady did not prevent him from working. Upon examination, a considerable effusion was found on the left side, with displacement of the heart. He was aspirated, and a quart of liquid of a sero-purulent nature taken away on several occasions, with the result that it came back again. He was then let alone, this time for two years, and engaged in light work about the wards. He suffered some, and his digestion was bad, but still he was in passable health, and Dr. Debove thought best to abstain from all treatment, and he asked the opinion of his fellow-members with regard to the management of these cases of latent pleurisy, which had been described by De Mussy and Dieulafoy.

Dr. Rendu, of the Necker Hospital, and Dr. Bucquoy, of the Hôtel-Dieu, thought that in such a case it was well to commence by successive operations and allow the lung to dilate, and then, when the pleural cavity was small enough, practise an empyema operation, to be followed by Estländer's operation

or not, according to the indication. Dr. Dumontpallier said he was not a partisan of aspiration,—that might be repeated forever; but that as soon as an effusion was shown to be purulent he would advise large incision under antiseptic methods. He was not at all in favor of aspirating instruments, but thought the puncture should be made with an ordinary canula, so that it would be the elasticity of the lung alone that would push the liquid out: as it expanded, this and the movement of the thoracic cage would be enough to make the liquid flow out as the lung filled up. He was of the opinion that great harm might be done by sudden aspiration.

M. Debove and others concluded that, after the poor success they had seen from paracentesis, it would be best to abstain unless danger from asphyxia was present.

On the Action of Opium and Belladonna associated in a Case of Acute Diabetes.—M. Villemin, who is the Professor of Medicine at the Val de Grâce (military) Hospital here, communicates to the Académie des Sciences an interesting article on the above subject. He says "that he had lately a therapeutic fact that was as precise and as clear as any physiological experiment. It was that of a young artilleryman of strong constitution, who was admitted with acute diabetes with all its usual symptoms, consisting of a polyuria of fourteen litres a day, and discharging eight hundred and forty-one grammes of glucose in the same period. The usual treatment was at once commenced by ordering abstinence from sugar, etc., and giving meat-diet with the gluten bread, etc.; but, a week having passed without any improvement, Dr. Villemin thought of a case of diabetes insipidus that he had seen cured with belladonna and opium, and began to try it in this man. He feared at first that he might provoke an accumulation of glucose in the system by putting a check on the urinary secretion by this medication. But, however, he began by giving ten centigrammes of extract of belladonna and five centigrammes of opium extract per day; and seven days afterwards the urine had gone down to ten litres, and the sugar to four hundred and ten grammes. He then progressively increased the dose, and at the end of two months got up to fifteen centigrammes of each medicine, when he had the satisfaction of seeing the urine and the sugar eliminated diminish gradually. At this time the urine was from three to four litres, and sugar two to five grammes per litre, and the dose of the medicines was raised to twenty centigrammes, when, a week afterwards, there was not the slightest sign of sugar.

M. Villemin then suppressed all drugs, and in two or three days the sugar came back, so he was forced to return to the same dose, when, five days later, the sugar had again disappeared and the quantity of urine was now two litres. The cure was maintained as long as the medicine was continued; but the moment the dose was lowered or stopped, the sugar would reappear and the urine increase in quantity. During all this period of experimentation the patient was kept on the usual diet; but this was now changed, and he was permitted to use all kinds of food as he liked, or what was given to the healthy men. But this did not make any difference as long as the dose of twenty centigrammes was kept up. Later bromide of potassium was tried; but the sugar returned and the urine increased to eleven litres. Experiments were also made, by giving one only of the medicines, to see if either of them had a preponderating action or an exclusive one in modifying the disease, and it was seen that the results obtained were by the association of the opium and the belladonna.

Contagion in Febrile Exanthemata.—Most writers are silent on the point as to the exact moment when the eruptive fevers are contagious, and the general public opinion is that they are all catching during the period of convalescence. Dr. Girard, of Marseilles, says this idea must have come from physicians originally, as the people get all their medical ideas first from the doctors, directly or indirectly. He himself had held this notion; but, after a careful study of the matter in some one hundred and fifteen cases, first he found that it was the reverse of true, and, following up the subject for some years, he cites a large number of facts to prove that *contagion in these fevers always takes place at the very beginning of the disease*, and he found that the incubation takes, as a rule, fourteen days. Cases are given of varicella, measles, and smallpox to prove this statement.

Dr. Girard now tells his patients, when they want to send their other children who may not be attacked out to the country, "No; it is useless. If they are to have it, they have got it already from the one who is ill." In regard to measles, he also does not believe that children get it a second time, for it will be found, on examination of such attacks, that the eruption is not the same, the marks are not of the characteristic half-moon shape, nor are the usual oculo-nasal catarrh symptoms found in such cases. He gives a very striking case to prove that contagion takes place at the beginning: it was a family who had several children ill with varicella, and the pustules were not yet dry, when a relation having two healthy children arrived on a visit. The doctor was asked his advice, and, being firmly persuaded that the disease was only catching at first, he permitted the children to remain and play with the others without the slightest danger to them, or either of them, taking the complaint. This is, of course, a negative fact, but, taken as coming after a

large number of very positive ones, it seems to confirm the idea that these fevers are contagious from the first.

Treatment of Neuralgic Sore Throat.—Most practitioners of medicine have frequently noticed, upon inspecting a supposed sore throat, that, much to their astonishment, there was but very slight redness of the fauces, and that it could not in any way account for the painful sensations described by the patients. Dr. Huchard says that these cases are not inflammatory angina at all, as the pain is not owing to the inflammation itself, but they are what he calls "neuralgic angina." These cases are similar to those congestions or slight uterine hemorrhages that are associated with lumbo-abdominal neuralgia, or those ocular hyperæmias that are provoked or at least kept up by facial neuralgias. The following are the clinical characters that will enable us to diagnose them: 1st. An entire discordance between the pain and the superficial inflammation of the tonsils, etc. 2d. Entire subordination of the hyperæmia to the neuralgic symptoms, which last precedes all inflammation and often survives it. 3d. The character of the pain is not continuous, but manifests itself by paroxysms, which take place apart from deglutition, and increase at night. It is also very rarely isolated, but has other neuralgias (facial, occipital, cervical, etc.) at the same time, and it is frequently complicated with otalgia, which is much more violent than in other inflammatory forms,—when seen with tonsillitis, for instance. These pains are frequently so violent that one is disposed to think of meningitis.

These clinical facts command the following therapeutic indications. The treatment must be directed more against the neuralgic element than against the congestive one: so that all emollients and antiphlogistic remedies are useless. To fulfil the pathogenic indication, Dr. Huchard advises the following antiperiodic and antineuralgic medicines:

℞ Quininæ sulphatis, 20 centigrm.;
Ext. aconiti radicis, 1 centigrm. M.

Fiat pil. (one). Sig.—Give three such pills, at an hour's interval, in the morning. When the neuralgic pains are very intense, give a cachet of hydrobromate of quinine, twenty-five centigrammes, in which put a granule of aconitine of one-quarter milligramme size, and give it three times a day.

As to local treatment, order the pharynx to be touched two to four times a day with a little of the following mixture on a brush:

℞ Glycerini (puri), 10 grm.;
Morphinæ hydrochloratis, 10 centigrm.
Aquæ menthæ piperitæ, 4 gtt. M.

The peppermint acts by its "antalgic" properties, as shown by Delioux de Savignac and others.

In all very painful sore throats accompanied by spasmodic cough, the following formula may be used locally in the same way:

℞ Glycerini (neutral.),
Aquæ menthæ piperitæ, āā 10 grm.;
Potassii bromidi, 5 grm.;
Cocainæ hydrochloratis, 50 centigrm. M.
Sig.—Paint on part as required.

Flatulent Dyspepsia.—Before closing Dr. Huchard's prescriptions, we would like to give one that he gives very often in the above disorder when it is the pure atonic form, without acidity or heartburn, but simply discomfort, pain, and flatulency. His idea is that there is present a decomposing fermentation, and therefore the indication is the anti-ferments:

℞ Aquæ aurantii florum, 100 grm.;
Aquæ melissæ, 50 grm.;
Aquæ chloroformi (saturated), 100 grm.
M. Sig.—Take a dessertspoonful before each meal.

About the middle of each meal take a glass of oxygen-water. The oxygen-water ordered is now manufactured in Paris by a firm who have a process for making oxygen gas, and they deliver it in siphons, like the familiar ones seen in all the hotels and restaurants and supposed to contain seltzer water.

The writer strongly advises the use of the above formula, as he has seen great benefit from it in a number of cases of flatulent dyspepsia. The oxygen-water might be replaced by some natural spring water with but little gas in it.

Paris Hospital Therapeutics.—It may be useful to give in a short way, as complete as possible, the kind of medicinal treatment employed in the hospitals, and we take the service of Professor Germain Sée as a guide. The following is from the official book of the Salle (or Ward) St. Jeanne, Hôtel-Dieu:

Fed.	Diagnosis.	Treatment.
1.	Anæmia	Hemoglobine and pepsin.
2.	Chlorosis	Sodii arsenias.
3.	Zona	Antipyrine, 4 grammes.
5.	Hemiplegia	Todd's potion.
9.	Peri-uterine phlegmon	Injections, terpine, nux vomica, and gentian.
12.	Syphilis, cerebral	Biniodide of mercury, sulphur-baths.
12 (bis).	Chlorosis	Ferri et potassii tart., sulphate of aconitine.
14.	Albuminuria	Tannin pill, ergotin pill, terpine pill.
14 (bis).	Mitral insufficiency	Sparteine sulph., convallamarin.
15.	Pericarditis and aortic ret.	Iodide of potass., digital., sparteine.
18.	Myocarditis	Caffeine, sparteine.
20.	Thoracic varix	Tinct. hamamelis, antipyrine, Vichy water.
22.	Typhoid fever	Charcoal powder, naphthaline, quinine sulph., rectal injections.
23.	Amyothropsia	Pill opium, mercurial frictions.
24.	Mitral insufficiency	Digitalis infusion.
25.	Dyspepsia	Charcoal powder, benzoate of soda, terpine.
26.	Diabetes	M. Sée's régime, arsenic.
27.	Hydroarthrosis	Antipyrine.

Bed.	Diagnosis.	Treatment.
28.—	Phthisis	Arsenic, pill opium.
29.—	Dilatation stomach	Ipecac powder (5 centigrms.), cocaine hydrochl. (5 centigrms.); suppress all vegetables.
29 (bis).—	Not made	Jalap.
30.—	Emphysema	Terpine, iodide of potassium, pill opium, sparteine sulphate.

Of course, in this rapid list of actual patients and treatment we have not time to indicate the symptoms for which some of the remedies were given; but those accustomed to hospital practice will see the reasons and be able to compare the above with their own practice.

More Changes at the Paris Faculty.—You will probably have already noticed the death of Professor Béclard, the eminent physiologist, who was dean of the Paris Faculty. He had gone to a dinner given in honor of the nomination of Professor Farabeuf to the chair of Anatomy, and returned walking, with the result of being carried off in nine days with pneumonia. The regretted professor will most likely be replaced as Professor of Physiology by Professor (*agrégé*) Ch. Richet, who is the son of Professor Richet who holds one of the chairs of clinical surgery at the Hôtel-Dieu. The position of dean will probably be given to Professor Brouardel, who is the Professor of Legal Medicine at the Faculty, and whose name is connected with all the medico-legal cases in Paris. He will receive three nominations at once shortly: one to the Academy, one as dean, and one as physician to the Hôtel-Dieu in place of Dr. Gallard,* who died lately. M. Brouardel is still in the prime of life, and he is a most eloquent speaker, attracting the largest audiences at his lectures at the Faculty. He is also a very amiable man, with great influence in the world of science and politics, so that this, combined with his thorough knowledge of his functions, will make him a great acquisition to the Paris Faculty as their dean.

Thomas Linn, M.D.

Paris, February 23, 1887.

WASHINGTON.

THE INTERNATIONAL MEDICAL CONGRESS: DISTINGUISHED VISITORS EXPECTED—THE MEMORIAL TO SURGEON AMBLER—SURGEON-GENERAL MOORE AND SECRETARY ENDICOTT—THE YELLOW FEVER INVESTIGATION.

Washington, March 22, 1887.

THE preparations for the Ninth International Medical Congress are being pushed with energy by the several local sub-committees. The Sundry Civil Bill, as finally passed, appropriates ten thousand dollars towards defraying the expenses of the Congress. The Senate had adopted an amendment appropriating thirty-five thousand dollars, but a member of the House Appropriations Committee is said to have threatened the defeat of the entire appropriation unless the reduced sum was accepted by the Senate conferees. The bill contains a provision that the sum appropriated shall be expended only on vouchers approved by the Secretary of the Interior.

This amount, while of material assistance, is totally insufficient to cover the extraordinary expenses incident to the Congress. Hence it will be necessary for the profession to respond promptly and liberally to any appeals that may be made by the Executive Committee for funds for the entertainment of the foreign guests who are expected.

The scientific success of the Congress is no longer in doubt. Of the large number of foreign delegates who have accepted invitations and signified their intention of being present, the more prominent are the following:

Drs. E. Landolt, A. Chervin, Dujardin-Beaumetz, M. Magitot, P. Ménière, W. D. Hogg, A. Charpentier, J. Amédée Doléris, Marquis Nadaillac, B. Löwenberg, Léon Petit, Victor Audhui, Henri Picard, P. Budin, M. Durand-Fardel, P. de Pietra Santa, and H. Leloir, of France.

Surgeon-General Jeffry Marston, John A. Macdonald, Dr. Evatt, Sir William Alexander Mackinnon, Sir Thomas Longmore, Sir James A. Hanbury, F. Bowreman Jessett, Urban Pritchard, J. H. Galton, J. Jamieson, Alexander Russell Simpson, F. P. Staples, John Anderson, A. Watson, Joseph Ewart, Dr. Lofthouse, E. H. Roberts, Alfred Pearce Gould, W. Allan Jamieson, William MacEwen, Isambard Owen, C. D. F. Phillips, J. G. S. Coghill, Ralph Stockman, William Murrell, Sidney Martin, Edmonston Charles, P. A. Young, Alfred L. Galabin, T. Colcott Fox, George Thin, Jonathan Hutchinson, M. Ludlow Purves, F. M. Pierce, J. J. Kirk Duncanson, R. N. Wolfenden, John Sutliff, Dudley W. Buxton, John Hutchinson, George Johnson, Sir E. H. Sieveking, S. A. M. Gordon, A. T. H. Waters, Walter Pye, William Frazer, Arthur Mitchell, M. Julius Mickle, H. Charlton Bastian, John Simon, David Ferrier, W. A. Brailey, Henry Power, J. William Moore, D. Hack Tuke, J. Syer Bristowe, W. Howship Dickinson, P. H. Pye Smith, C. Macnamara, J. W. Hulke, Christopher Heath, Richard Barwell, William Anderson, Thomas Bryant, Edmund Owen, Arthur W. Orwin, George H. Savage, W. M. Whitmarsh, J. William Taylor, Thomas More Madden, Robert Gray, McCall Anderson, Eustace Smith, Charles West, T. M. Dolan, J. W. S. Thudichum, Benjamin W. Richardson, J. Comyns Leach, H. B. Hewetson, George Gray, Julius Althaus, Lawson Tait, Sir J. Crichton Browne,

* Dr. Brouardel will not, however, take Dr. Gallard's service, of women's diseases, but one of medicine.

W. Dunnett Spanton, and E. Radcliffe Cousins, of Great Britain.

Drs. A. Hegar, Christian Bäumler, A. Gusserow, Joh. Veit, A. Oldendorff, F. Winckel, A. Wernich, L. Lewin, P. G. Unna, O. Lassar, Surgeon-General Von Coler, F. Esmarch, Dr. Schwartze, and A. Eulenburg, of Germany.

Dr. Leopold Servais (official representative of the Belgian government), Professor Hauben, and Dr. Alfred Struebens, of Belgium.

Dr. O. Chiari, Gustav Braun, Emil Ehrendorfer, Alois Monti, H. Widerhofer, E. H. Kisch, Joseph Körösi, Moriz Kaposi, Hans von Hebra, Isidor Neumann, Johann Schnitzler, Dr. Neudörfer, of Austro-Hungary.

Drs. A. Cordes and F. Dumont, of Switzerland.

Professors J. W. R. Filanus, A. Guye, and Dr. Gori, of Holland.

Drs. Domenico Chiara, W. W. Baldwin, Andrea Ceccherelli, Luigi Casati, Eugenio Fazio, and Domenico Peruzzi, of Italy.

Professor Hirschsprung, of Denmark.

Dr. Miguel Gonzalez Gonalsey, of Spain.

J. A. S. Grant (Bey), of Egypt.

Dr. Leonard Boor, of New Zealand.

Dr. Moncorvo, of Brazil.

Dr. H. Reimann, of Russia.

Professor T. W. Kay, of Beyrout, Syria.

This list of names looks sufficiently international, and most of them are pretty well known to students of current medical literature. It is true we shall probably not be able to get Bismarck, Boulanger, Schwenninger, or Señor Ferran, because we cannot promise that they will meet "the leaders of professional thought"—certain able editors and their assistant kickers in Boston, New York, Philadelphia, and Baltimore—at the Congress. On account of a change in administration, both of the country and of the Congress, we shall not be able to pay the travelling expenses of the foreign delegates. This may keep some of the very prominent ones at home. All those that come, however, will find a hearty American greeting awaiting them, and during Congress week, at all events, the latch-string will hang outside.

The Committee on Entertainment is actively engaged in preparations for the entertainment of the distinguished guests. No one need fear that the social features of the Congress will be neglected.

The Committee of Arrangements has secured the following places of meeting for the Congress and the various sections.

The general meetings and the sessions of the Sections on General Medicine and on Dental and Oral Surgery will be held in Albaugh's Theatre.

The Sections on General Surgery, Military and Naval Surgery, and Dermatology and Syphilis, in Cornwell's Building, Pennsylvania Avenue.

The Sections on Anatomy and Pathology, in the Army Medical Museum.

The Section on Physiology, in the United States National Museum.

The Sections on Obstetrics and Gynæcology, in the Georgetown Medical College.

The Sections on Materia Medica and Therapeutics, and Psychological Medicine, in the National Medical College.

The Sections on Medical Climatology and Dermography, and Public and International Hygiene, in the Masonic Temple.

The Sections on Otology, Laryngology, and Ophthalmology, in Columbia Medical College.

The Section on Diseases of Children, in Willard's Hall. This will also be the headquarters of the local committees and the place of registration.

The rates at all the principal hotels have been reduced to three dollars and three dollars and a half per day.

The medical officers of the navy have just had completed a beautiful tablet in bronze, commemorative of the heroism of Surgeon J. M. Ambler, who perished with De Long and his companions in the Lena Delta in 1881. It will be remembered that when the "Jeannette" was crushed in the ice and sank in June, 1881, the exploring party took to the three boats, and that two of the latter reached land in the Lena Delta on September 16 and 17. The third boat, containing Lieutenant Chipp and seven men, was lost, no trace of it ever having been found. Reduced by cold, disease, and starvation, those who had escaped the sea searched for their missing companions, but without success. Lieutenant Danenhower and Engineer Melville, with nine others, succeeded in reaching home after undergoing many privations. The captain's party consisted of fourteen, including Dr. Ambler and Mr. Collins, the meteorologist (a brother of Dr. Collins, of Minneapolis). Of these, only two seamen, Nindermann and Noros, who had been sent ahead for assistance, escaped. The others, worn out and hopeless, "fell down and died as they walked along," Captain De Long, Dr. Ambler, and a Chinaman, Ah Sam, being the last to succumb.

The tablet, which is of bronze, encased in a heavy oak frame, illustrates in a very spirited manner a scene on the 9th of October, 1881, when Nindermann and Noros are leaving the camp for succor. At this time the party were living on three ounces of alcohol per day, with no solid food whatever. The captain urged Dr. Ambler to accompany them and try to save himself; but the latter declined, saying his duty was with the sick and dying. Besides this representation, the tablet contains an oval medallion bearing an excellent likeness of Dr. Ambler, and his name and rank, with the legend, "Duty stronger than love of life," in decorative lettering.

The entire memorial is gotten up with ex-

cellent artistic taste. The conception and execution in all details are exceedingly creditable to the committee having the matter in charge and the artists, Messrs. Joseph Lauber and Charles R. Lamb, of New York. The tablet is now on exhibition at the Corcoran Art Gallery. It should be photographed under the auspices of the committee, in order that every one who desires may have a representation of this beautiful and characteristic memorial, which typifies in such an exquisite and impressive manner the qualities which all men honor.

The reported disagreement between Surgeon-General Moore and the Secretary of War has been much exaggerated in the newspapers. While there are reasons for believing that Dr. Moore was at first annoyed and offended over the apparent interference in the management of his office by the Secretary, it may be confidently stated that no resignations or retirements will follow as a consequence. Dr. Huntington was relieved from duty in the Surgeon-General's Office in pursuance of the principle established long ago by Secretary Endicott, that officers shall not remain on duty in Washington longer than four years if others can be found to perform their duties satisfactorily. Dr. Huntington had been for about sixteen years continuously on duty in the Surgeon-General's Office, and was granted a change of station. It is probable that other changes of a like character will soon be made.

A great deal of gossip is current with regard to the influence of Dr. Baxter in securing the changes that have been made, but there is nothing in the rumors. While Dr. Baxter is credited with having a good deal of influence with the Secretary of War, he is not the sort of man to use it unfairly.

The sum of ten thousand dollars has been appropriated by Congress to pay the expenses of an investigation into the alleged protective inoculations against yellow fever claimed by Dr. Domingos Freire, of Brazil, and Dr. Carmona, of Mexico. A large number of inoculations have been made in Rio de Janeiro and other cities in Brazil, and the results are said to substantiate fully the claims of Dr. Freire. An investigator with good judgment and thoroughly competent to perform the duty should be selected for this mission. It is generally believed that the choice will fall upon a distinguished medical officer of the army who is *facile princeps* in the department of bacteriology. The President may decide, however, that no special bacteriological knowledge is necessary in order to accomplish the purposes contemplated by the Act of Congress, and appoint some one else. It is said that among the applicants for the appointment is Dr. Joseph Jones, formerly President of the State Board of Health of Louisiana. Dr. Jones has had much personal experience with yellow fever, but his selection for the proposed investigation would not inspire much confidence among the members of the profession who look forward with interest to the solution of such a vitally important problem as the prevention of the most destructive scourge that constantly threatens our Southern border. G. H. R.

PROCEEDINGS OF SOCIETIES.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

THURSDAY, MARCH 3, 1887.

The President, THOMAS M. DRYSDALE, M.D., in the chair.

DR. E. LONGAKER read a paper on

TREATMENT OF LABOR IN CONTRACTED PELVES.*

The most frequent forms of contracted pelves are the flattened and the generally contracted. In the former the conjugate diameters alone are shortened, and in the latter all are less than normal. The paper was limited to the consideration of those cases where the narrowing is moderate and not sufficient to render the birth of a living child impossible. This embraces flat pelves having a conjugate of three inches or a little less, and generally contracted pelves having a conjugate of at least three and one-third inches.

Dr. Longaker here followed with a description of the peculiarities of the flat non-rachitic pelvis and the flat rachitic pelvis.

Reports of six cases were given. In Case 1, with a conjugate of three and one-half inches, craniotomy was performed, in consequence of the large size of the head and an unchangeable bad presentation of the head, after attempts to deliver with the forceps had failed. The mother ultimately recovered. A careful study of the change from a vertex- to a brow-presentation was followed by comments on the increased dangers in multiparæ, with a criticism on powerful traction efforts, first with one pair of forceps and then another, until three or four have been tried.

Case 2 was delivered with forceps of a living child.

Case 3 was also delivered with forceps of a living child.

Case 4. Rachitic flat pelvis, conjugate of three inches, second pregnancy, delivered by means of Tarnier's traction-forceps. Her first child had been born without assistance, after sixty hours of labor. A large portion of the posterior cervix had sloughed away as the result of this prolonged labor. The head

* Published in the American Journal of Obstetrics.

was transverse and semiflexed at the superior strait. He applied the forceps over the face and occiput, and delivered a living child. The mother did well.

Case 5 was a counterpart of the fourth. Tarnier's forceps were used, and mother and child did well. With version in contracted pelves he has had no experience. Under favorable circumstances, the operation can be done so easily that it may be regarded as without danger in itself.

Case 6 was a breech-presentation in a contracted pelvis, third pregnancy. The first child had been stillborn, the second was delivered alive by means of forceps. In this, the third labor, the extraction of the after-coming head was very difficult, and the child was still. The day after delivery, signs of internal hemorrhage and peritonitis appeared, and the mother died twenty-four hours after delivery. Rupture of the uterus and vagina was found at the autopsy.

Three other cases of uterine lacerations in breech-presentation in contracted pelves were given, followed by a study of the mechanism of this tendency to laceration. He came to the conclusion that it will be best to restrict version to cases in which there are other reasons for it than the mere existence of flattening,—some of these being the presence of the occiput on the smaller side of an unequally-contracted pelvis, the sagittal suture over the symphysis pubis, presentation of an ear, and prolapse of the cord. He extolled the axis-traction forceps in these cases, and exhibited an instrument of his own devising, which he had used in two cases. He has no hesitation in applying the forceps high up in the uterus when the head is arrested at the brim of the pelvis, and cited fifteen cases of such application in proof of his opinion. After some remarks on estimation of the conjugate diameter, he concluded with the following propositions:

In the flat pelvis and in the flat rachitic pelvis, decided degrees of disproportion at the brim may be overcome by the natural efforts when the head presents.

In the forceps, and especially in the axis-traction forceps, we have the means of extending still further the possibilities of successful delivery when the head is arrested at the brim.

The forceps, judiciously used, is a safe instrument for mother and child.

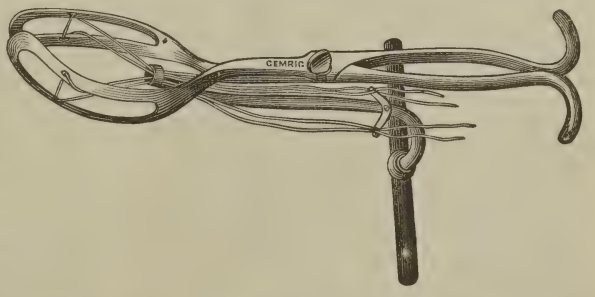
The existence of contraction of the pelvis in itself is no reason for preferring version.

In flat pelves, with a conjugate diameter of not more than three and a fourth inches and not less than two and three-fourths inches, premature labor should be induced.

Dr. HIRST differs from Dr. Longaker on two points: the propriety of always applying the forceps in flat pelves before the head has become engaged, instead of turning and delivering by the breech; and the propriety of applying the forceps over face and occiput in transverse positions of vertex-presentations, as in this latter operation the biparietal diameter must be increased.

Dr. H. A. KELLY agreed with Dr. Hirst. He considered the paper of Dr. Longaker a very timely one, which in all its leading features he most heartily commended. It is certain that an intelligent use of the axis-traction principle is destined to revolutionize the treatment of labor in contracted pelves. In cases in which craniotomy has been the custom, axis-traction will save many lives. A few important rules should be borne in mind. First of all, Dr. Kelly would differ from the speaker most decidedly in one practice, and lay down the rule that "axis-traction" cannot be applied to the head above the brim. There is no axis above the brim, and any traction on the rod merely causes the head to rotate around its own axis, but can under no circumstances be efficient in inducing it to engage. Axis-traction applies to heads engaged in the pelvis. Again, the ordinary use of this principle should be to *assist the pains*. Further, it is important in using Tarnier's forceps of this model to attend constantly to keeping parallel the shanks of the prehensile blades and the proximal end of the traction-rod.

If the handles of the forceps rise during a traction, and it is felt by the examining finger that the head has not really advanced, then either the head has rotated in consequence of an eccentric grip or the forceps has slipped; and here lies the great difficulty of the Tarnier instrument. The frequency of this accident, together with some other considerations regarding the mechanical construction of the instrument, had demonstrated to his mind the fact that it is only approximately axis-traction. He showed a pair of forceps (see illustration) with which he had delivered a dwarfed woman of a full-sized, live, female child through a three-inch conjugate. This pair of forceps was shown him first by Dr. Porak, of Hôpital St.-Louis, Paris, who believed that by them he had attained the most perfect axis-traction yet devised. The principle



is applied in a very simple manner to any long forceps. Each of the four blades of the spoons is perforated with a small oval hole, as near the centre of the oval of the spoon as possible. Two long tapes are taken, and one passed through the holes of one side; the four free ends are brought down under the forceps, and, after their application, hang out at the vulva. These ends are brought through a hole at the extremity of a traction-rod curved as ordinary traction-rods, with the usual transverse handle at the outer extremity; this is then drawn up to the head, and the ends of the tapes fastened on the rod at the apex of the angle where the vaginal turns down into the perineal curve. The advantages of this forceps are many. 1st. The application is extremely simple. 2d. It can be applied to any forceps. The Tarnier cannot be, as it is only suitable to narrow-heeled instruments. 3d. The child's head is grasped by the centre of its figure, owing to the position of the attachment of the tapes. 4th. This same factor renders unnecessary the screws which are so dangerous in Tarnier's forceps, as the traction does not tend to force the blades apart, but approximates them. 5th. The perfectly movable connection between forceps and rod—*i.e.*, the tapes—allows the head to flex and follow the curve of the pelvic canal.

He had used Tarnier rods and the Poullet forceps on the same patient several times, and his experience accords with that of Dr. Porak: where the Tarnier rods fail and the forceps slip, the Poullet forceps hold and work easily.

Dr. Kelly said, "An interesting incident of a short time since shows the comparative value of axis-traction. I had described my Poullet forceps to a friend who has a large obstetric practice. He sent me a note, asking me to bring my French forceps. I found the head well engaged, but wedged tight. He had made many well-directed vigorous efforts with his own forceps, and finally gave up in despair, producing no effect. I applied the Poullet forceps, and, with a moderate traction on the rod, the head moved gently and steadily until it came directly to the outlet without apparent effort. We were both enthusiastic. No ordinary forceps in the world could have accomplished that." Mr. Gemrig, of this city, keeps the rods on hand: they are the only essential part of the instrument.

Dr. CLEEMANN: There is one feature of Tarnier's forceps which appears to be barbarous and unscientific, and I see this feature is retained in the instrument shown. I allude to the device of the screw, which is intended, by clamping the blades against the child's head, to prevent the slipping of the instrument. Slipping should be prevented by the proper adjustment of the blades to the child's head and the moderate pressure induced through traction. To accomplish such adjustment in extreme cases, a pelvic curve should be given to the shank of the instrument. Such adjustment cannot with safety be replaced by the mechanical pressure induced by the screw. (*Amer. Jour. Obstet.*, April, 1878, p. 341, *et seq.*)

Dr. LONGAKER had not had time to read Dr. Winten's article in the original, *Zeitschrift für Geb.*, but gained his information from an editorial in the *Medical News*, which stated that an expectant plan of treatment and forceps are advised for primiparous, and early version for multiparous.

He still thinks the occipito-frontal application of the blades does not appreciably increase the biparietal and bitemporal diameters of the fœtal head. It may increase the vertical diameters, as the cervico-bregmatic and sub-occipito-bregmatic. A simple experiment on the manikin of Budin demonstrated the truth of this proposition. A full-term fœtus, stillborn, was placed in position at the brim, the sacrum being thrown forward so as to make the conjugate measure three inches. With the axis-traction forceps, the relative disproportion between the head and the pelvis, which was considerable, was easily overcome. With blades having a sufficiently marked cephalic curve the compression need be but slight.

There seems to be some misconception as to what is meant by the head being at the brim of the pelvis. The head is at the brim until the greatest transverse diameter, the biparietal, has passed the plane of the superior strait. With a head entirely above the superior strait, the use of any forceps would hardly be appropriate. If fixation of the head could not be secured, version would be the best measure.

He did not see how traction exerted by means of tapes could be more efficient than with stiff rods.

The fixation-screw is a necessity, there being no free hand to make the necessary compression by the handles. Moreover, it is not objectionable. Continuous pressure is avoided by relaxing the pressure in the intervals. This was one of the chief objections urged by the late Albert H. Smith.

A little reflection and application of well-recognized principles would dictate the proper method of applying traction. Simple axis-traction forceps have been devised by Breus and by Braun.

As version is in almost universal favor in Germany and Vienna, these instruments have little chance; they are scarcely used there.

Dr. BARTON C. HIRST read a paper on

THE DEATH-RATE OF LYING-IN HOSPITALS IN THE UNITED STATES.

Of nineteen thousand nine hundred and two women, delivered in thirty-four hospitals during the years 1880 to 1885, distributed among nineteen large cities of this country,

2.59 per cent. died after childbirth. This death-rate compares very unfavorably with the statistics of hospitals in England, Germany, Vienna, and Paris, and is also more than twice as great as the death-rate of general practice in the cities of this country, which is about one per cent. One and a half per cent. of the women confined should be the maximum death-rate in lying-in hospitals, and, to secure this result, those institutions should be subjected to State or municipal supervision.

Dr. BALDY thought that, in comparing American lying-in hospital reports with those of foreign countries, especially those of Germany, we would not find the former to hold an inferior position. According to Dr. Dohné's statistics, the average mortality in Germany before antiseptics were introduced was 3.4 per cent. Comparing this with the 2.5 per cent. mortality as given by Dr. Hirst for American hospitals, we stand about even,—our apparent advantage being due to the fact that their 3.4 per cent. were without any antiseptic, our 2.5 per cent. included a few years of antisepsis. Comparing the years of complete antisepsis in both countries, we still hold our own, Dr. Dohné giving the German an average mortality of 1.37 per cent., Dr. Hirst giving us a mortality of 1.31 per cent. for the Boston Lying-in Charity, and 1.52 per cent. for Blockley Almshouse, Philadelphia, with a mortality of less than one per cent. for the past year in the last-named institution. The mortality of private practice and hospitals scarcely admits of comparison.

Dr. Baldy considers modern midwifery too meddlesome. The practice of introducing the examining finger and manipulating the patient every fifteen or twenty minutes is a great source of danger. This is evident on reference to Dr. Dohné's statistics. In hospitals, even under antisepsis, where students of medicine are taught, the percentage of mortality is given as 1.90; where midwives are trained, 1.13 per cent.; where there is no teaching whatever, 0.56 per cent.

Two great sources of puerperal fever, so called, are lacerations of the soft parts and diseased appendages. If the laceration were always dealt with primarily, and the appendages examined and dealt with as required, our mortality would drop to almost nothing. While he was an interne at Blockley Almshouse, the vast majority of women delivered suffered from perineal tears, and in every one of these cases there was a rise of temperature that was called puerperal fever. There were no attempts at closure and no antiseptic precautions. A patient is now under his care who was delivered a month ago of a stillborn child. On the third day she experienced a rise in temperature, with all the signs of a puerperal fever. An examination disclosed a pyosalpinx, which will have to be removed to save her life.

Dr. HIRST admitted that before the introduction of antiseptics the statistics of German hospitals were worse than those of our hospitals at the present time.

PERINEORRAPHY AS PERFORMED BY DR. W. GILL WYLIE.

Dr. HOWARD H. PARDEE: The interest shown in the paper describing Dr. Emmet's operation for the restoration of the perineum, read at the February meeting, led me to think that a brief description of the operation devised by Dr. Wylie might also be acceptable to the Society.

According to a paper by Dr. Wylie, contributed to the *New York Medical Record*, March, 1885, he had devised this operation about five years previously. It was first performed before a class, so far as I know, in a ward in Bellevue Hospital, New York, in the winter of 1882–83. It is the operation as I then became acquainted with it that I shall describe, for it is the one I have since used and am most familiar with. A letter received from Dr. Wylie a few days ago tells me that he still uses the same operation, with little if any modification. It is performed as follows.

The usual preparation by laxatives, hot douches, and glycerin tampons having been carried out, the bowels are cleaned by an enema an hour or two before the time for operation. Just before the patient is etherized, a hot vaginal douche of corrosive sublimate, one to five thousand, or carbolic acid, one to forty, is given. The patient is placed on her back, the buttocks as near the edge of the table as possible, with the thighs strongly flexed and the knees held apart by an assistant on either side. The labiæ are drawn apart as fully as possible without straining, and are held by the assistants. The caruncles marking the posterior border of the vaginal orifice are found, and mark the limit of the denudation upward or towards the pubes. A tenaculum is hooked into the crest of the rectocele, which is drawn down, and an examination is made with the finger to find at what point the tissues on either side of it are put on the stretch by the traction. This point, or one a very little above it, is made the limit of a denudation backward into the vagina. It is well to mark it by snipping off a particle of the mucous membrane on either side. For the denudation, a pair of moderately sharp-pointed scissors curved on the flat is the most convenient instrument. Following Dr. Wylie's example, I have always used a pair of good dissecting-forceps to catch the tissues, instead of the tenaculum. Commencing from below, a strip of mucous membrane as wide as can be conveniently cut is snipped off, following the line of junction of the skin and mucous membrane from the level of the inferior caruncle on one side to the same level on the other. We then denude all the

posterior surface of the vagina up to this level till we reach the beginning of the sulci running on either side of the rectocele. The part of the operation requiring the greatest judgment has now come. Our object is to unite the vaginal wall above the sulcus on one side with the corresponding portion of the vaginal wall on the other side, so obliterating the sulci and forcing back the rectocele. If we carry our denudation too high, we shall find it difficult to bring the two sides together without undue tension. If we are too timid, our support will be insufficient and our operation will be but a partial success.

The proper level having been determined, we continue the denudation upwards till we reach the points in the vagina which we marked out as the limit of tension from the apex of the rectocele. This will usually be about one and a half or two inches from the orifice. In denuding this portion of the vagina, we still work from side to side, carrying the strip of mucous membrane down into the sulcus, up over the rectocele, down into the other sulcus, and up to the level we have marked on the other side. In doing this we should not cut very deeply, and preserve as much as possible of the muscular substance of the wall of the vagina over the rectocele; but afterwards we should go over our work in the sulci, removing all tissue, till we come to the firm fibrous external sheath of the vagina. In this way we hope to preserve a firm muscular coat over the rectocele. When we are through, the denuded surface will be nearly square, or, if the rectocele be very large, a parallelogram, the greatest length being transverse to the axis of the vagina. All bleeding should be controlled preferably by pressure and torsion, but, if necessary, catgut ligatures may be used, and the parts washed thoroughly with some efficient antiseptic.

The sutures should now be introduced. The first three or four are placed as in the old "butterfly" operation, entering about a quarter of an inch outside the line of junction of the skin and mucous membrane, passing backward and downward, and then upward and forward, emerging on the other side at a point corresponding to the point at which they entered. The last one of these external sutures should be entered a little above the level of the caruncle which marked the limit of denudation upward. The remaining sutures, four or five in number, are usually entered in the mucous membrane a little above the line of denudation, passed down below the angle formed by the sulcus, and up to the crest of the rectocele. It is best to bring the needle through at this point and re-introduce it at the same point; it then goes down the other side of the rectocele, round the angle of the sulcus, and up the opposite vaginal wall till it emerges above the line of denudation, opposite the point where it entered on the other side. This may seem to be a difficult stitch; but, with a straight needle, a good needle-holder, and the index finger of the left hand in the rectum, while the thumb is in the vagina, it is made without much trouble. The greatest care should be taken that the needle is buried when it passes under the angle of the sulcus. When the sutures are placed, and before they are tightened, the sphincter ani should be thoroughly stretched. This to a certain extent relieves the tension on the sutures, and at least adds largely to the comfort of the patient by preventing straining at stool. Another thorough cleansing of the parts should now be done, and the sutures should be tightened from below upward. The urine is not drawn unless the patient is unable to pass it; the parts are washed after urination.

Dr. PARISH had for years performed a similar operation, but carried his denudation farther up the vagina, and thus avoids the formation of a pocket-like place in which discharges accumulate. He has found it in some cases a cure for constipation.

Dr. BALDY did not think Dr. Pardee understood Emmet's operation.

Dr. PRICE prefers Emmet's operation.

Dr. H. A. KELLY thought this an unsatisfactory modification.

Dr. PARDEE was well acquainted with Emmet's operation as performed two and a half years ago. The obliteration of the rectocele in that operation was by drawing down a stretched wall, leaving it thin over the rectocele. In his experience, opium had not been needed after the operation to control pain. The external stitches are needed to secure a neat external healing.

Dr. JOSEPH PRICE exhibited a specimen of

DOUBLE PYOSALPINX WITH COEXISTING OVARIAN CYSTOMA ON BOTH SIDES.

Mrs. H., æt. 30 years, two children, labors normal, complains of irregular and profuse bleeding, constant pelvic pain, greatest on left side. General health poor. Examination revealed a small fibroid on posterior wall of the uterus, a cyst on the right side extending high up, and inflammatory masses laterally.

Operation.—On section, the appendages on both sides were found distended by pus and generally adherent; left ovary cystic and suppurating, and matted to the pavilion of the tube and the sigmoid flexure. The right ovary was cystic and adherent to the vermiform appendix. The pelvis was filled with an irregular conglomeration of cysts and pus-tubes, intimately adherent to pelvic organs, and overlying all this were the bladder and omentum, also firmly adherent. The omentum was perforated at two points, and the mass was removed by careful dissection. A glass drainage-tube was used; recovery was rapid and perfect; no opium, no catheter; tube out on fourth day; stitches out on seventh day.

Dr. W. H. PARISH reported a

PORRO-MÜLLER OPERATION,

performed by Drs. O. H. Allis and W. H. Parish because of an impacted shoulder-presentation. Mrs. L., æt. 26 years, of small stature but good general health. When about six months pregnant she had been hooked by a cow and narrowly escaped a miscarriage. She reached full term, and had been in labor seven days when Dr. Allis was telegraphed for by Dr. Groom, of Bristol, Pa., in whose care the patient had been. The membranes had ruptured four hours after the pains began. On the sixth day the pains became more severe and the cord prolapsed. About the same time a hand protruded from the vagina. The child died also about this time. Version had been tried by Dr. Groom and others without and with anæsthesia, but could not be effected. The child was evidently of large size. The patient was restless, exhausted, and with a pulse of 120 per minute. The pains were constant, and the uterus was firmly contracted about the child. The patient's surroundings were unfavorable: the ignorance and poverty of the family rendered proper nursing impracticable. An offensive sanious fluid was escaping from the uterus; the cervix was rigid and but slightly dilated. It seemed impossible to deliver the patient by either cephalic or podalic version, and the conclusion was made that evisceration was not advisable because there was every reason to believe that the uterus had done itself irreparable harm by reason of its prolonged retraction against the eminences of the child. The contusion incident to the retraction and the admission of atmospheric air over a period of seven days, with the character of the discharge, rendered it certain that gangrenous changes had been going on in the endometrium and placenta, and that septic inflammatory action of the uterine lymphatics had already begun. The patient was in a condition of exhaustion. Evisceration alone would not have sufficed to secure delivery: it would have been necessary to bisect the child in the lumbar region and to remove separately the lower and upper sections. The condition of the uterus and the small size of the pelvis would have rendered this procedure a lengthy and an exceedingly difficult one, and would have involved additional serious injury to the uterine tissues. The removal of the child would have left a putrefying endometrium and septic lymphatics. It was thought that the patient would certainly die if thus delivered. All present thought Cæsarean section warranted.

The operation was performed by Dr. Allis. The uterus was elevated from the abdomen, and a rubber tubing was placed about the cervix, securely controlling the hemorrhage. Escape of fluids from the uterus was guarded against by means of warm antiseptic pads adjusted about and over the abdominal incision. A vertical incision was now made, and the child extracted without difficulty; the placenta was not in the line of incision, and there was no hemorrhage. Two transverse pins were carried through the cervix, and a constricting wire was substituted for the rubber tubing about the junction of the cervix with the body of the uterus. With the uterine body were removed also both broad ligaments and their contents. The uterine stump was secured externally by means of the transfixion-pins, and wounds closed by carbolized-silk sutures. Antiseptic measures were taken throughout the operation, but the spray was not used. Immediately after the operation the pulse was 130 per minute. The patient died in forty-eight hours, apparently from heart-failure.

A full account of this case will be found in the *American Journal of Obstetrics*.

Dr. R. P. HARRIS remarked that the Cæsarean operation had been performed in the United States in cases of impaction of the fœtus in a transverse position twelve times. In eleven cases the fœtus was dead. In the twelfth it was saved; but the operation was believed to have been uncalled for by a physician who performed laparotomy with success after the woman had ruptured her uterus in her next labor. The pelvis had been computed to have a conjugate and a transverse diameter of three inches. In one other of the twelve cases the pelvis was deformed and the woman saved. The arm was protruding in seven cases, five of which recovered. In two the shoulder presented,—one saved; and in three the presenting part is not named. Of the twelve cases, nine, or seventy-five per cent., recovered. Of the three cases lost, one was ninety-six hours in labor, three days in charge of a midwife; another was twenty-six hours under a midwife who had given ergot and ruptured the membranes; and the third had been long in labor, but time not stated. Her death was caused by fright and exhaustion. She rose from her bed to defend her mother against her husband, who had come home drunk on the third day. He knew of but one case of impaction in Europe in which the Porro operation was performed; but in this the pelvis was deformed. The operation was by Fehling, of Stuttgart, and the woman was saved. Putridity of the fœtus may require the removal of the uterus in a case of impaction. One woman was saved without its removal, in the United States, after seven, and another after ten, days of labor, by uterine suturing to prevent escape of fluid; but it is safer to remove the organ when there is danger of poisoning, and particularly where the patient appears to be already threatened with it. In the Porro case of Candido Ramello, of Turin, the woman had been six days in labor, the fœtus was putrid, and the mother in great danger of septicæmia. The

removal of her uterus with its contents was followed by improvement of her symptoms, and she recovered.

W. H. H. GITHENS,
Secretary.

PHILADELPHIA ACADEMY OF SURGERY.

AT the stated meeting of the Philadelphia Academy of Surgery held March 7, 1887, the President, Dr. D. Hayes Agnew, in the chair, Dr. J. Ewing Mears read a paper entitled "The Progress and Limitations of Operations upon the Abdominal Cavity."

Dr. John H. Packard reported

A CASE OF GUNSHOT-WOUND OF THE ABDOMEN,

in which nine wounds of the intestines and one of the iliac vein were produced. Laparotomy was performed, and resection of a portion of the intestine was made, with closure of the other wounds by suture. The patient died in a few hours following the operation. At the autopsy the hydrostatic test showed that the closure of the wounds by the sutures was complete, and that all the wounds had been found and secured.

DISCUSSION.

Dr. J. Ewing Mears: Dr. Packard has alluded to the sutures to be employed in closing wounds of the intestine. Operators on the abdominal cavity have insisted upon the importance of using such a suture as will bring the serous surfaces fully together, and as much of the surface as is consistent with the preservation of the calibre of the intestine. Mr. Wells says that this is the great fact which has been learned from operations on the abdominal cavity in cases of ovarian disease. An important point with reference to the suture to be employed in closing wounds of the intestine is that one should be employed which will not permit separation under the influence of the peristaltic action of the bowel. The Lembert suture seems to me to accomplish that better than any of the other sutures which have been proposed.

In cases in which there is a wound of the liver, Dr. Senn has recommended that the wound be plugged with iodoform tampons, the tampon to be allowed to remain. If the wound is in an aseptic condition, the aseptic foreign material will, in course of time, become encysted. Suturing wounds in parenchymatous tissues, such as that of the liver, is a very unsuccessful operation. The needle employed in these operations should be round, and smaller than the catgut suture which it carries.

Dr. Charles B. Nancrede: Having been the first to perform laparotomy for gunshot-wound of the intestines in this city, although I was not then acquainted with Dr. Bull's and others' methods of operating, I recognized the objections to the triangular needle, and employed a cambric needle with very fine silk. I do not see that catgut has any advantage over fine silk. I was able in this way accurately to coaptate the wounds,—so accurately that, although the stomach (which had in its walls two large wounds) was forced out of the abdominal wound in the efforts at vomiting, and I had considerable difficulty in replacing it, nothing escaped. I used the Lembert suture, and it was perfectly air- and water-tight. My colleague, Dr. Forbes, in a case in which he resected about six inches of the bowel, used a combination of the Czerny and Lembert sutures which answered admirably. I do not think that the Gély suture would save any more tissue than the Lembert in ragged wounds of the intestine. When this subject was recently discussed at the meeting of the New York State Medical Association, I think most of the speakers recommended the use of the ordinary sewing-needle.

Dr. J. H. Packard: I used the triangular needle because it happened to be the best at hand; but it several times cut vessels in the mesentery or mesenteric border of the intestine of sufficient size to require tying, thus causing delay. I have since procured from Mr. Gemrig some needles made from ordinary sewing-needles of large size by cutting them off and re-sharpening them. The eyes are quite large enough to carry the fine gut which I used, and there is no lateral edge to endanger the vessels. The fine chromicized gut was used because it was in readiness, and I think it answered as well as silk.

The Lembert sutures were placed about one-eighth of an inch apart. For some reasons, Gély's suture seems to me preferable; but I should not make it continuous, as proposed by him. Instead of crossing the ends and re-inserting them in the intestinal wall, I would simply tie them, and start afresh. When used continuously, I should think it might produce an undesirable longitudinal puckering of the bowel. The advantages of it seem to me to be that it involves the turning in of less of the edges; that the longitudinal portion of it serves as a sort of splint for the tissues; and that some time is saved, as in each application progress is made along the wound as well as across it. I know of no recorded observations as to the comparative security afforded by these methods respectively.

The President, Dr. D. Hayes Agnew, presented a gallstone removed by cholecystotomy, and also a renal calculus removed by nephro-lithotomy.

DR. WILLIAM GOODELL having resigned from the Preston Retreat, Dr. Joseph Price has been unanimously elected to succeed him, as Physician in Charge, by the Board of Managers.

PHILADELPHIA CLINICAL SOCIETY.

STATED MEETING, FEBRUARY 25, 1887.

The President, Dr. JAMES B. WALKER, in the chair.

THE PRESIDENT introduced the subject of

ARTIFICIAL FEEDING OF INFANTS.

The importance of the subject all will admit, and depends upon (1) the inability of the mother to afford nourishment; (2) the demands of the child for the materials for growth, repair, and heat-production; and for *protection* from indigestion and the numerous disorders of malnutrition. The prominent indications of the non-agreement of any food are excessive colic, vomiting, diarrhœa. The results are seen in losses of flesh, strength, vivacity, and color, non-development of general body or of parts, as of teeth, retardation of infantile accomplishments, psychical or physical, or even loss of those which have existed. One or many of these conditions may exist and call for attention on the part of the physician to the imperative needs of the little patient.

In choosing a diet there is no established *law* save that the food shall be easily digested, non-irritating, and suitable for nourishment and heat-production. If the infant have been nursing its mother, the *quantity* may be alone at fault. In all such cases artificial food should be made to *supplement* and *not* to *substitute* the natural supply. The amount of artificial food must vary with each case from every alternate feeding to two or three feedings daily. Should the *quality* of the mother's milk be at fault, or should she be unable to nurse her child from other causes, a complete *substitute* must be furnished.

Here, unquestionably, the best, because furnishing the most rational substitute, is the wet-nurse. But, rational though it be, it has objections which sometimes are insurmountable. Among these are the expense incurred, the difficulty of getting one whose milk is altogether satisfactory, or, this agreeing, the unsatisfactoriness of the individual herself, who, reins in hand, may, if inclined, drive the family to distraction. Apart from this, many mothers object to having their little ones nurse at other breasts than their own, even when the substitute is cleanly in person, character, and habits, and much more so if doubt exist, as it often must, upon these scores. While not decrying wet-nurses,—indeed, while claiming that for some infants they are our only means of salvation,—the lecturer claimed that in most instances they are not indispensable.

In choosing a substitute for human milk for healthy children, the lecturer does not approve of the so-called infant-foods manufactured on large scale and kept on the druggist's shelves. These substances, many of which have much virtue, find a sphere in the management of the sick, but as a rule may be eschewed in arranging a food for the well.

For most babies condensed milk answers best for the first three to six months of life. Here again a choice may be made. There are several varieties of this food, most of which are supplied in quantities to grocers and druggists, and lie an indefinite time on the shelf or counter, during which time they are liable to deterioration. This is not a matter of theory, but has been proved in more than one instance by an attack of severe indigestion and diarrhœa on opening a new can. The brand most satisfactory in the lecturer's experience is Canfield's, which is manufactured in Philadelphia, and is for sale only at the manufacturer's office, where its freshness and purity are guaranteed. Or, if the sweetness of the condensed milk be an objection in an individual case, the "Evaporated Cream," a partially condensed milk prepared by the same firm, may be used, having it served fresh every day or every alternate day. Unquestionably, condensed milk is preferable for the young infant to the fresh (?) milk furnished by the middleman in our large cities.

If a child taking condensed milk is constipated, a small quantity of Mellin's, Horlick's, or Nestlé's food may be used in each bottle, and will usually be all-sufficient.

At least until a food has proved satisfactory, the infant should be weighed at the end of each week, and should gain from three or four ounces to a pound weekly. If severe colic, vomiting, or diarrhœa occur without cause, such as teething, exposure, etc., some change is indicated. This will usually be the case, where condensed milk is the diet, somewhere from the third to the eighth month. The addition of oatmeal to the food may be all that is needed. It should be thoroughly cooked for three hours, then strained through a cloth, producing a white, semi-translucent substance about the consistency of starch as used by the laundress. Of this from one to three tablespoonfuls may be added to each bottle, according to the age of the child and its powers of digestion. Lime-water is an important addition to the artificial food, and should be used continuously for the first ten or twelve months.

In most instances fresh cow's milk will have to be substituted for the condensed milk when the latter disagrees, or this, if obtainable pure, may be used from the first. This should be diluted to suit the age, and have added sugar, lime-water, and from a teaspoonful to two tablespoonfuls of cream to each bottle, varying the amount to suit the condition of the bowels. After the third month, or even before, some of the oatmeal-gruel, prepared as already directed, may be added. In cities, all the water used in preparing the food should have been previously

boiled. Sometimes an irritable state of the bowels, induced by one of many causes, may be benefited by the substitution for a few hours of barley-water, arrowroot-water, or gum-arabic water, and on resuming the milk-food one of the above waters may be used as the diluent, instead of plain boiled water. Sometimes the use of peptonized milk diluted with barley-water, or the addition to the milk-food of the "Peptogenic Milk-Powder" of Fairchilds, Brother & Foster, may be required for a shorter or longer period.

In the artificial feeding of infants the plain nursing-bottle with pure rubber nipple is better than spoon-feeding, giving exercise to the masticatory apparatus and stimulating to more rapid functional development the salivary function.

The subject was discussed by the different members, and the experience of each one proved that cow's milk in some form was the best food for a child who must be artificially fed.

Dr. ANNA MCALLISTER spoke of some interesting experiments which had been tried at the New York Infant Asylum, under the supervision of Dr. J. Lewis Smith: where, in several autopsies on artificially-fed infants, it was found that in those fed on *starchy* food the pancreas was very small, seemingly arrested in its development, while in those fed upon *condensed milk* the organ was normal in size.

Dr. EDWARD R. STONE gave a verbal report of a case of uræmic convulsions in nephritis following scarlet fever in a child 6 years of age, in which a hypodermic injection of one-twelfth grain of muriate of pilocarpine gave most satisfactory results. The child had been in convulsions all day, but they were speedily checked after the administration of the remedy, salivation and diaphoresis setting in almost immediately. "Basham's Mixture" was used afterwards, and the child made an uninterrupted recovery.

MARY WILLITS, M.D.,
Reporting Secretary.
1527 GREEN STREET.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting of the Academy was held March 3, 1887, the Vice-President, CHARLES C. LEE, M.D., in the chair.

THE PATHOLOGY AND TREATMENT OF EPILEPSY, BASED UPON NOTES OF SIXTY CONSECUTIVE CASES IN PRIVATE PRACTICE.

Dr. WILLIAM H. THOMSON read the paper. He observed that the most striking features of a disease were often the least important: this he considered to be true regarding the motor or convulsive phenomena in epilepsy, which are only accessory. He did not look upon epilepsy as necessarily a convulsive disorder at all. It had been said that its primary and essential element consists in an explosive or active discharge of nerve-cells. For this definition he would substitute the following: epilepsy is a disease characterized by sudden but temporary loss of function on the part of one or more cerebral centres, the attacks being introduced probably in every case by an afferent impression.

To illustrate his meaning he cited the case of a man who, although he had the convulsive phenomena of epilepsy, had at other times only sudden and temporary aphasia, not being unconscious; at other times there was a loss of consciousness and a convulsion; there was also the initial aura. He asked what these different attacks were, if they were not true epilepsy? and, if so, how could the motor or convulsive phenomena be absent and yet be an essential element of the disease? He therefore claimed that the essential and invariable element in epilepsy is suddenness of onset, and that this is the only truly sudden disease. Other diseases in which suddenness seems to figure are only apparently so. Among these are laryngismus stridulus, spasmodic asthma, hemiplegia, etc. As distinguished from epilepsy, hysterical attacks are preceded by emotional excitement. Neuralgia, chorea, mental disturbance, are affections more or less progressive. They may be rapid in their onset, but never sudden in the sense that epilepsy is. A sudden mental derangement is always epilepsy, and therefore all recurring symptoms, whether sensory or motor, when characterized by suddenness are ominous, because suggestive of epilepsy. The more marked motor phenomena are not necessary in epilepsy in order that the more grave mental phenomena of that disease may occur. Mental degeneration and homicidal mania follow equally upon the seemingly insignificant symptoms of *petit mal* as upon the seemingly grave symptoms of *grand mal*. So far as the results go, nothing could be more complete than the minor disease.

Dr. Thomson then considered the theory, generally believed in, that epilepsy is attended by a cell-discharge or explosion. He thought that this is only apparent, and not founded on fact. For instance, a man walking rapidly, if he should have the ligamentum patellæ cut suddenly, would not only fall, but would experience a shock more serious than the cutting of the ligament, because of the sudden interruption of the organized and harmonious action of the motor-nerve centres. It could be said that whereas convulsive movements could be initiated by direct irritation of the motor ganglions either in the spine or the cortical gray matter of the brain, yet the movements in an immensely preponderating number of cases are not thus initiated, but are the consequence of sensory influences, either excitant or the reverse. Any sudden sensory impression occur-

ring during motor action might in an instant turn the previously regulated motion into a virtually powerful unregulated convulsion.

Ever since he had become satisfied that the primary lesion of epilepsy was to be found in the sensory and not in the motor department of the nervous system, and that it was one characterized by lack of nutrition and not a surplus of energy, he had studied the application of this principle to treatment. While he often used to feel discouraged with the therapeutics of epilepsy, he was now growing less so, as by perseverance in spite of the recurrence of convulsions many obstinate cases finally yielded. The first object is to improve nerve-nutrition, and this can be done in many cases by cod-liver oil. This agent also tends to prevent the impoverishment of the blood by the bromides. For this purpose next comes phosphorus. He recommended a diet of milk, eggs, fish, in the place of animal flesh. Too rapid eating should be avoided, and attention should be given to the functions of the alimentary tract. For quieting sensory excitability, he gave bromides. If there were indications of persistent cortical irritation, he employed corrosive sublimate. He used belladonna whenever there were symptoms related to the digestive tract. Chloral hydrate was sometimes useful at night. Digitalis was useful where there was pronounced vascular disturbance or symptoms connected with the genito-urinary tract. One expedient which he often used with striking results was a mustard or red-pepper pack.

Dr. L. PUTZEL thought the prodroma of epilepsy, sometimes lasting two or three days, were against the idea that it was always a sudden disease. He did not think that the paralytic attacks in *petit mal* were frequent, and when they did occur he thought that they were the result of exhaustion from prolonged convulsions. He did not think the convulsions which children had when teething, and which did not continue, were epilepsy; they were only epileptiform.

Remarks were made by Drs. W. H. DRAPER, PUTNAM JACOBI, and E. D. HUDSON.

Dr. A. D. ROCKWELL read a paper on

THE VALUE OF ELECTRICITY IN THE TREATMENT OF EPILEPSY.

If he were asked directly whether electricity was of any value in the treatment of epilepsy, he would unhesitatingly answer in the affirmative. There was a certain proportion of cases which, failing to receive more than temporary benefit from bromides, might recover when that treatment was reinforced by the judicious application of electricity. He cited one case in which there had not been a recurrence of the attacks for four years after the commencement of treatment by electricity combined with the usual therapeutics. The entire number of cases of epilepsy in which he had employed electricity since 1874 was twenty-eight. Ten had abandoned the treatment too quickly to estimate its value. In three cases in which it was given a fair trial it did not aid the bromides in controlling the disease. In eight other cases which were under observation from six weeks to nine months the good effect of the treatment was manifest in a greater or less degree. Recovery took place in two.

It was not known, nor was it claimed, that electricity used alone would cure epilepsy; but used in connection with bromides its value was unmistakable, and under its use a certain proportion of the cases would recover which otherwise would not. He employed central galvanization and general faradization. Many epileptics were benefited by the influence upon their general neurasthenic state. The systematic use of electricity made the system more tolerant of the bromides. Electricity should be used with care and judgment. Especially should the physician using it avoid interruption of current in central galvanization, which he relied upon chiefly.

Drs. FISHER and THOMSON made some remarks upon the paper.

REVIEWS AND BOOK NOTICES.

A PRACTICAL TREATISE ON THE MEDICAL AND SURGICAL USES OF ELECTRICITY. By GEORGE M. BEARD, A.M., M.D., and A. D. ROCKWELL, A.M., M.D. Fifth Edition. Pp. 30, 758, large 8vo. New York, Wm. Wood & Co., 1886.

From beginning to end this work shows a painstaking desire to set forth the claims of electricity as a therapeutic agent in medicine without exaggeration of its merits. In its pages the latest ideas are recorded, and the chapters on electro-physics, electro-physiology, and electro-diagnosis are noteworthy for their fulness, clearness, and adaptation to the wants of every-day practice. No book on the subject by an American author will rank with this volume in intrinsic value, and it is simply indispensable in the library of the thinking and reading physician. The index and glossary are very comprehensive.

W. R. D. B.

MISCELLANY.

OLEOMARGARINE LEGISLATION.—The war over oleomargarine wages vigorously, and the decision just rendered by the Supreme Court of Pennsylvania will tend to complicate the question. The Court of Appeals of New York a short time since decided that it was not constitutional to prohibit absolutely the manufacture and sale of oleomargarine, this product not being deemed unhealthy when properly manufactured. It was held proper to regulate the

sale and prevent its being offered for genuine butter, but the absolute prohibition of all manufacture and sale was held improper. The Supreme Court of Pennsylvania now takes part in the discussion and decides directly opposite to the New York court. The case involved about the same question, and the court says, "The manufacture, sale, and keeping of an article may alike be prohibited by the Legislature, if in their judgment the protection of the public from injury and fraud requires it. To deny the authority of the Legislature to do so is to attack all that is vital in the police power."

NEW JOURNALS DEVOTED TO THERAPEUTICS.—In Germany, Drs. Liebreich, Langaard, and Rabow are the editors of a new medical monthly devoted to clinical medicine and new remedies. In France, Dr. Henri Huchard will edit a medical weekly entitled the *Revue Générale de Clinique et de Thérapeutique*, the first issue of which appeared February 17. The material in these journals, consisting of original contributions, clinical lectures, annotations on new remedies, and reports of societies, promises to be of great interest and value to the profession.

NOTES AND QUERIES.

A REMARKABLE CASE OF INJURY TO THE PERINEUM.

MR. EDITOR,—On the 27th of December, 1886, I was called to see a son of Mr. J. B. H., of West Wateree. Mr. H., who came for me, told me that his son was running along after a wagon, sliding a shovel in front of him, holding the handle with his hands in front of him, when the shovel struck against a stump, and the handle was forced through "his son's guts." He found his son in a faint, and had to employ considerable force to extract the shovel-handle. He further stated that the handle punched a round hole through the pants, shirt, and drawers of his son.

I found that the handle belonged to an ordinary road- or scoop-shovel, and measured one and one-half inches in diameter, and was rounded on the end. When I reached the patient, who is about 21 years old, he was lying before a fire in apparently no pain. On inspection, I found a round hole punched, though it looked as if it had been cut, through the pants, shirt, and drawers, a little tear on the right side of the penis, an inch from the end, and a semilunar cut or tear on the anterior surface of the scrotum, being nearly on the median line, but a little to the right. On digital exploration, I found an opening clear through the scrotum, entirely as above stated, and tearing its way out under and through the perineal skin and superficial fasciæ, barely missing the external sphincter ani muscle. The hole was so large that I could easily put my thumb through it. I could detect no injury to the right testis.

I stuffed the wound with iodoform, after washing with carbolized water, and left a drainage-tube running clear through the scrotum, which was also partly filled with iodoform. The penis being also dressed with iodoform, I padded the injured parts with absorbent cotton, fixed a bandage to support the genitals, and had the patient put to bed, ordering quin. sulph., gr. xx, as a safeguard against traumatic fever.

The patient's residence being in the country, he was not seen until on the 30th inst., when, being sick, I got Dr. B. to see him for me. He found no fever, very little pus, scarcely any inflammation, and only a little soreness in the parts, the small wound on the penis giving more pain than the larger wound in the scrotum. The iodoform-treatment was continued, being injected through and around the drainage-tube while suspended in glycerin and water.

I saw him again on January 6, 1887, and found everything looking healthy, scarcely any pus or pain, and no fever. I took out the tube and ordered the iodoform-treatment to be continued, and to be injected as before carefully as long as there was any opening in the scrotum. In a few days over a month from the time he was hurt, the young man was at work.

What I consider so remarkable in this case is that, notwithstanding the wound made by the one-and-one-half-inch shovel-handle through the scrotum and perineum to the anterior edge of the external sphincter ani, there was no fever, suppuration, nor pain worth noting. I am inclined to think that the kindly healing of the wound without any trouble was due to the iodoform. I always use iodoform very freely, and have never seen any harm from it, except, when using it in a case of ulcer and fissure of the anus, I noticed, after a free use of it, there was brought on a pruritus; and I noticed this only once.

Is there on record a case like this in any respect? If there is, I would like to hear of it. I have never heard or read of any wound similar to this in its nature, cause, or way of healing.

JOHN W. CORBETT, M.D.
CAMDEN, SOUTH CAROLINA.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 13, 1887, *TO MARCH* 26, 1887.

CAPTAIN WILLIAM W. GRAY, ASSISTANT-SURGEON.—Leave of absence further extended two months. S. O. 62, A. G. O., March 17, 1887.

CAPTAIN WILLIAM F. CARTER, ASSISTANT-SURGEON.—Leave of absence extended four months, on surgeon's certificate of disability. S. O. 57, A. G. O., March 11, 1887.

FIRST-LIEUTENANT GUY L. EDIE, ASSISTANT-SURGEON.—Leave of absence extended three months. S. O. 67, A. G. O., March 23, 1887.

FIRST-LIEUTENANT JEFFERSON W. POINDEXTER, ASSISTANT-SURGEON (recently appointed).—Ordered for temporary duty at U. S. Military Academy, West Point, New York, relieving Captain Richard W. Johnson, Assistant-Surgeon, who will return to his proper station (Fort Adams, Rhode Island). S. O. 62, A. G. O., March 17, 1887.

CAPTAIN FRANK REYNOLDS, ASSISTANT-SURGEON (retired). Died March 4, 1887, at Oakland, California.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDING MARCH 26, 1887.

SURGEON J. B. PARKER.—Ordered to the U.S.S. "Ossipee."

SURGEON C. A. SIEGFRIED.—Ordered to Baltimore, Maryland, on special duty.

SURGEON JOSEPH HUGG.—Placed on Retired List, March 17, 1887.

ASSISTANT-SURGEON F. J. B. CORDEIRO.—Detached from Navy-Yard, Boston, and placed on waiting orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING MARCH 26, 1887.

BAILHACHE, P. H., SURGEON.—To proceed to Mobile, Alabama, Pensacola, Florida, Ship Island, Mississippi, and New Orleans, Louisiana, as inspector, March 14, 1887.

LONG, W. H., SURGEON.—Granted leave of absence for seven days, March 16, 1887.

GOLDSBOROUGH, C. B., SURGEON.—Granted leave of absence for thirty days, March 14, 1887.

DEVAN, S. C., PASSED ASSISTANT-SURGEON.—To proceed to Tacoma, Washington Territory, as inspector, March 19, 1887.

LONG, W. H., SURGEON.—Leave of absence extended five days, March 23, 1887.

URQUHART, F. M., PASSED ASSISTANT-SURGEON.—Relieved from duty at Norfolk, Virginia; ordered to Washington, D.C., special duty, March 22, 1887.

PETTUS, W. J., ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon Guitéras, to remain at Charleston, South Carolina, "waiting orders," March 24, 1887.

PHILADELPHIA, APRIL 16, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF COMMINUTED FRACTURE OF THE ASTRAGALUS, WITH EXCISION OF FRAGMENTS; ON RESECTION OF ELBOW-JOINT; AND ON THE VALUE OF ANTISEPTIC DRESSINGS.

Delivered at the Pennsylvania Hospital, Philadelphia, March 30, 1887,

BY THOMAS G. MORTON, M.D.,

One of the Attending Surgeons to the Pennsylvania Hospital, and also to the Orthopædic Hospital, etc.

GENTLEMEN,—The case to which I now ask your attention is one of unusual interest and importance,—interesting on account of the character of the injury, important as a demonstration of the advance in clinical surgery as a direct result of the recent application of the principles of the Listerian system to the treatment of wounds. By its aid operations may now be successfully performed which by former methods were entirely inadmissible. Of the truth of this statement this case is an illustration.

Charles B., 54 years of age, a house-painter by occupation, fell from a scaffolding on the 23d of this month, and was brought here immediately after the accident occurred. He does not know what part of his body struck the ground. Upon admission he had a weak pulse, and his temperature was only 96½°. He complained of great pain in the back and legs; he could not walk, but he had power of motion and sensation in both lower extremities. He had a number of contusions, and his right ankle was swollen.

The treatment during the first twenty-four hours consisted in applications of dry heat and the administration of stimulants and morphine to relieve pain and restlessness. On the following day a more careful examination revealed what was apparently a dislocation of one of the tarsal bones of the right foot forward, so that it was quite movable under the skin of the instep. It was subsequently found that this was the anterior portion or head of the astragalus, which had been broken off by a vertical line of fracture from the remaining portion of the bone, and separated from its ligamentous attachments. The ankle-joint was so disorganized that the toes were extremely everted. Crepitus could be obtained, apparently due to fracture of one or both malleoli. The left ankle was also swollen and painful on motion, but there were no signs of fracture. His general condition having improved, I made an incision on the outside of the foot, following closely the line of incision for the excision of the cuboid bone, as in the case I showed you some weeks ago. Upon opening the joint I removed the entire astragalus in a number of separate fragments. The wound was thoroughly cleaned, a drainage-tube passed through the joint and out of an opening made over the instep on the inner side, the edges of the wound were drawn together with the interrupted suture, and an antiseptic dressing of Lister gauze and iodoform applied. Both feet were placed in fracture-boxes and suspended from a frame above the bed.

On the 29th the wound was dressed (five days after the operation). There had been no suppuration whatever. There was no redness and no swelling around the wound. His pulse, respiration, and temperature record was as follows:

March 24, A.M...	.....	...	.....	P.M...	118	20	100°
March 25, A.M...	120	18	98½°	P.M...	120	22	99°
March 26, A.M...	104	20	98½°	P.M...	112	18	98 2/10°
March 27, A.M...	120	22	98½°	P.M...	112	20	99°
March 28, A.M...	118	20	97½°	P.M...	116	24	98 2/10°
March 29, A.M...	112	18	98½°	P.M...	104	22	98°
March 30, A.M...	112	22	97°				

His temperature was 100° on the afternoon of the operation, partly due, perhaps, to the administration of the anæsthetic; since then it has been normal. He has had good union except at the point where the drainage-tube is, and this we will remove to-day. The rubber tube was inserted because I thought that we might have considerable serous oozing. It is impossible to tell beforehand whether there will be much or little. Had I known that there would be no more effusion than we have here, I would have employed the drainage of chromicized catgut, which would have been absorbed without interrupting the healing of the wound.

RESECTION OF ELBOW-JOINT.

This man, 28 years of age, suffered an injury of his right elbow, by having it caught between the bumpers when coupling cars,

a month ago. There was fracture of the internal condyle of the humerus and of the ulna, and great contusion of the parts. The wound was treated with irrigation. Following the injury the fracture became compound, after which we removed some fragments of bone. At that time his temperature reached 101°, but has since declined to normal. As he seems in good condition, with a normal temperature, I will now do a resection of the elbow-joint.

In making a resection of this joint we need particularly to bear in mind the course and location of the ulnar nerve and brachial artery. The incision is made on the posterior aspect of the joint, and I will now remove a portion of the humerus and the olecranon, and, if necessary, part of the head of the radius.

The limb is first shaved, washed with turpentine, and then with corrosive sublimate (one to two thousand). An Esmarch bandage is applied, and rubber tubing fastened around the middle of the arm, and towels wet with sublimate solution are placed on each side of the field of operation. I find necrosis of part of the ulna and humerus requiring removal with a chain-saw, and I will also shave off the head of the radius. This is really a case in which amputation would have been preferable to resection; but the patient objected to it so strongly that we will try to save the limb.

After removing the bone, the inside of the cavity is thoroughly scraped out with a curette. It is very important to get rid of all this granulating tissue, which acts as a source of irritation. The sinus is now converted into the condition of a simple incised wound. We now remove the rubber tourniquet and find that there is very little bleeding. A drainage-tube is inserted, and the wound closed with sutures and dressed antiseptically. The secretions of the wound, which are necessarily aseptic, will come through the gauze and be absorbed by the cotton.

REAMPUTATION FOR PAINFUL STUMP.

The next case is quite an interesting one. He has been the subject of several operations since his admission into the hospital, eighteen months ago. An amputation of the upper third of the leg for an injury was followed by painful stump. Resection of the external branch of the popliteal was performed, and he had relief from suffering for a time, but only for a time, for the neuralgic pains gradually returned and became as severe as before. We conclude in these cases that some filaments or small inosculating branches have escaped division and gradually restored the nerve-functions, or the ends of the nerve become reunited by fibrous tissue. At the Orthopædic Hospital of this city we have tried a number of expedients to prevent reunion of the ends of the nerve after section, bringing them in diverse directions in neighboring muscles or doubling them backward upon themselves and fastening the ends alongside of the nerve-trunks. But quite often, in spite of all our efforts, they reunite and restore the channel of nerve-conduction. In this patient I also subsequently resected the internal popliteal, but with a like result. You can see the scars of each incision. As he now suffers again from neuralgia of the stump, I will proceed to do a Teale amputation just above the knee.

It is probably sometimes the case that neuralgia affecting a stump after amputation may have a central origin, but in others some local cause like a bulbous enlargement of the ends of the nerves may be the explanation of the symptoms. In either case an operation would be justifiable. The dressings are applied after the operation in the same manner as the preceding cases, substituting chromicized catgut drain for the rubber tube.

RESULTS FROM ANTISEPTIC DRESSINGS DURING FIVE MONTHS' SERVICE IN THE MEN'S SURGICAL WARDS.

The following is the statistical report of my recent term of service—from September 1, 1886, to January 29, 1887, inclusive.

Two hundred and nineteen surgical cases were admitted into my ward. Of this number, two hundred and eleven were cured, one was improved, four remained convalescent, and three died. Of the three fatal cases, one was due to pleuropneumonia following a lung-wound caused by fractured ribs; one was from a rupture of the intestine following an injury (the patient was in a dying condition when admitted); and one was from hemorrhage into the pleural cavity following a gunshot-wound of abdomen and chest.

Of the two hundred and eleven cases which recovered, fifty were simple and

eighteen were compound fractures;* six were crushes involving the feet; five were crushes involving the hand; four were compound fractures of the skull; two involved the inferior maxilla; one involved the wrist-joint; and one presented a compound dislocation of the knee.

There were twenty-nine lacerated, incised, punctured, and gunshot wounds. One stab involved the brachial artery, with complete division of the biceps muscle; one opened the ankle-joint; one opened the thorax; and one opened the abdominal cavity.

There were sixty-seven serious surgical operations performed, with but a single death, and this followed a gunshot-wound of the abdomen, to which I shall again refer.

There were also an enormous number of minor operations done in the casualty ward. These cases were promptly sent to their homes, and, for obvious reasons, have not been included in these tables. As far as I know, no harm befell any of them.

No outbreak of cellulitis, phlebitis, abscess, erysipelas, tetanus, septicæmia, or pyæmia followed any operation, and there was no secondary hemorrhage. There was one case of consecutive hemorrhage some few hours after an operation for perineal section.

In one case of very extensive scalp-wounds, facial erysipelas developed eight hours after the patient, who was a drunkard, was admitted; but the wounds united by primary intention.

I may here state that cases of erysipelas were constantly treated in the medical wards (which are directly between the two surgical wards) during the entire service, without giving us any concern.

Among the operations which antisepsis made it justifiable for me to perform, I may refer to—

1. The suturing of the broken fragments of a patella for the first time with catgut in this hospital,—indeed, for the first time, I believe, in this country.

2. In a case of double and excessive talipes equino-varus, excision of the cuboid bone in each foot for the first time in my experience, and for the first time in the hospital.

3. The first radical operation in the hospital for the removal of the glands involved in bubo was recently performed, and on several occasions successfully repeated.

4. My first abdominal section for gunshot-wound in this hospital I performed quite recently.

During my late term of service I resected the long bones of upper and lower extremities. Union of the radius and ulna occurred with a single dressing. The major amputations (except in one instance, where I used a rubber drainage-tube) were dressed only once, and that at the time of the operation. In each instance the original dressing was removed on the twenty-first day or later, in the presence of the class, and in every case the result showed a perfectly united, solid, sound stump. Catgut drain was in these cases always used, with the single exception referred to.

In two cases which required trephining for compound depressed fractures of the skull, no symptoms followed these operations. In one case the patient was up and about the ward on the fourth day; the other on the third day. In both cases the primary dressing was not removed until the end of the third week, and no further dressing was applied.

In a comminuted fracture of the patella, after fully opening the joint by a vertical incision, the fragments were drilled in three places and securely held in close apposition by catgut; in this case apparently good bone-union has taken place.

In another case the knee-joint was entirely exposed by a fall, which ruptured the old inflammatory adhesions that had been thrown out in nature's attempt to unite by new tissue a quadriceps ruptured more than a year ago. The condyles and head of the tibia were exposed, the lateral and crucial ligaments were torn, the wound of the soft parts of the joint was so extensive that the leg was held only by a band of tissue posteriorly; the vessels and nerves were preserved intact. Twenty interrupted catgut sutures and one dressing were all that was required, and a perfect recovery followed.

The main arteries of limbs and elsewhere were tied, and uniformly with but a single dressing and no pus.

Large scrofulous and simple abscesses were freely opened, and, after being curetted, healed at once as in ordinary incised wounds.

* The fact that simple fractures and subcutaneous tenotomy, as the rule, repair promptly and without causing any septic conditions should be noted.

The last time I operated upon a case of scrofulous abscess was seventeen days ago. It occupied the outer chest-wall on the left side, and, after it was opened by an incision twelve inches in length, three ribs were found to be involved in superficial necrosis. The contents of the abscess were about ten ounces, and the walls were covered by a pyogenic membrane, which was completely removed with the curette. The ribs were also curetted until they freely bled. The cavity, having been thoroughly cleansed, was, after placing at the lower angle a small rubber drain, brought together by a large number of catgut sutures. The chest-movements were partially controlled by the laced corset similar to that used for fractured ribs.

This case was dressed again on the seventh day, the drain was removed, and there was perfect union throughout. It has not required dressing since.

Let me formulate the following conclusions from this five months' trial of antiseptic methods:

By the use of antisepsis we have been enabled to secure absolute cleanliness in the dressing of wounds.

By this means we shorten the wound-healing period by securing primary union, and can thus protect the patient from the dangers incident to suppuration, and so get rid of cellulitis, phlebitis, abscess, septicæmia, pyæmia, and secondary hemorrhage.

We also materially lessen the chances of the occurrence of erysipelas and tetanus.

By the infrequency of renewal of surgical dressings, pain, so frequent in handling wounds, is materially lessened, if not entirely avoided.

We are also able to adopt a conservative course in many instances, and limbs and joints are saved which, under other treatment, would of necessity be sacrificed.

We have abolished those scourges which so long have infested surgical wards, the sources of "hospitalism," so that we at last have succeeded in accomplishing that which has always been the aim of surgery. The mortality-rate has been remarkably reduced by the introduction of the antiseptic method, and I feel warranted in declaring that where it is practised deaths in surgical wards should occur only in cases commonly recognized as "unavoidably fatal."

ORIGINAL ADDRESS.

MEDICAL TEACHING, PAST AND PRESENT.

Abstract of an Oration delivered before the Alumni Association of the Medico-Chirurgical College of Philadelphia, Thursday, April 7, 1887,

BY DUDLEY S. REYNOLDS, A.M., M.D.,

Louisville, Kentucky.

WHEN anatomy was studied in a few of its meagre outlines merely, and for the most part in secret, there came forth a man named Monro, in the great city of Edinburgh, where Benjamin Rush, Ephraim McDowell, Walter Brashear, David Hosack, and Benjamin Dudley received their first medical training, and with the force of great eloquence and a thorough mastery of what appeared, at that time, all of the details of anatomy, succeeded in investing the dry bones of the skeleton with a fascination but little less forcible than that with which the immortal Shakespeare has clothed the cowardly assassin of Duncan, Scotland's famous king. Monro was so great in his style and manner of teaching that the medical school at Edinburgh became for the time the leading medical institution of the world. From that day to the present the study of anatomy has been rendered simple and easy.

An ambitious physician of that time, jealous of Monro's great success and reputation as a teacher, built a hall in Edinburgh and established therein a museum of anatomy. To his amphitheatre he invited the students and practitioners of medicine to hear him lecture and witness his demonstrations. He rattled the dry bones before his audience with such energy and spoke with such eloquence that he soon robbed the great university of all its students at the time of the usual lectures on anatomy. This man's boldness in exhibiting the skeleton, and even the cadaver itself, for purposes of demonstration aroused great excitement, but the earnestness with which he prosecuted his work finally won for him that success he so much deserved.

This may be said truly to have been the very beginning of illustrative methods in medical teaching. It was a long time, however, before other branches of the curriculum advanced beyond the prevailing theories of a few leading men.

On the 9th of July, 1790, Dr. Benjamin

Rush stood in the hall of the College of Physicians in this city and delivered a eulogium upon the life and character of William Cullen, the author of a new system of medicine. Said Dr. Rush, "This illustrious physician was the preceptor of many of us; he was, moreover, a distinguished citizen of the republic of medicine, and a benefactor of mankind; and although, like the sun, he shone in a distant hemisphere, yet many of the rays of his knowledge have fallen upon this quarter of the globe. Dr. Cullen possessed a great and original genius in discerning the relation of distant truths by the shortest train of intermediate propositions. His imagination surveyed all nature at a glance, and, like a camera obscura, seemed to produce in his mind a picture of the whole visible creation. His knowledge was minute in every branch of medicine; he was a great anatomist and an ingenious physiologist; he enlarged the boundaries and established the utility of chemistry; he stripped materia medica of most of the errors that had been accumulating in it for two thousand years, and reduced it to a simple and practical science."

At the time Cullen made his appearance as a teacher, the doctrines of Boerhaave were universally prevalent. Boerhaave believed that all diseases depended chiefly on the presence of certain acrid particles in the fluids of the body, and in a departure of these, in point of consistency, from the natural state.

Says Dr. Rush, "Cullen's first object was to expose the errors of this pathology, and to teach the public to seek the causes of disease in the solids."

Cullen's theories concerning the nervous system so impressed his eulogist that he boldly proclaimed, "No man would ever unravel the operations and the whole nature of the nervous system without being forced to acknowledge that the foundation of his successful inquiries was laid by the discoveries of Cullen."

The "pathies" and "isms" arose, and flourished for the edification of imaginative people. The few facts pertaining to every branch of medical education excepting anatomy and botany were so scattered as to defy every attempt at establishing principles, until finally Billings came, and the new pathology of Simon opened up new fields for speculation and experiment.

Dissection became a recognized part of the curriculum, and was openly announced as part of the requirements in all the best schools.

John Hunter's great thirst for experimental knowledge had wellnigh taken hold of the world when Jenner, in 1798, came as the apostle of a new creed, based upon the experiences of the humble dairymaids. Vaccination as a protective measure against the smallpox remains an unexplained fact.

Presently instruments of precision began to be employed; vivisections of inferior animals were made, and the science of biology began to receive fresh attention. The humoral pathology, homœopathy, Thompsonianism, and all the "isms" and "pathies" paled into so many dim shadows over the fields of former conquests.

The medical student now, instead of sitting patiently by the hour listening to the beautiful sophistry with which individual theories and hypotheses concerning the nature and character of disease were supported, has at length come to the point where demonstration of the theories and illustrations of the methods of practice are demanded.

The growth of medical education, it may be said, has been slow. Twenty-five years ago there were, indeed, but few schools in the country where clinical and laboratory instruction formed anything like a prominent feature of the curriculum. The result of these practical methods of inquiry, and of the substitution of the few demonstrated facts applicable to the study of disease, has been wonderful. A great and new science of pathology is now established upon the ruins of Cullen's popular theory.

The great Pancoast comes no more to stand before you, with burning lips and irresistible arguments, to convince you of the superiority of his method of treating wounds; in his stead, the gifted son invites you now to the dispensary and to the clinic-rooms, that you may see for yourselves the masterly touch of his cunning hand in the adjustment of fractured bones, or witness his skilful methods of stanching the flow of the crimson tide in wounded arteries. You are not asked to believe upon the mere statement of your professor of chemistry, whose beautiful experiment of the consuming powers of oxygen and the frigid powers of carbonic acid gas are, upon the one hand, the life-giving force in

the atmosphere we breathe, and, on the other, the death-dealing force in the dark recesses of subterranean caverns. He does not content himself with telling you that carbonic acid gas is evolved from the mixture of sulphuric acid and carbonate of lime, but proceeds at once to the demonstration, and with the magical process of his art he compels every member of his class to become practically familiar.

In the pathological laboratory, which is an institution of comparatively recent device and origin, you now study in the dead subject the nature and extent of those changes wrought by disease.

Experimental research has at length brought to light the startling fact that nearly all of our diseases, and especially the contagia, arise from specific micro-organisms, which, although their life-histories have been studied with great minuteness of detail, cannot with certainty be classified as animal or vegetable in their nature. A minute rod-shaped body, called by its discoverer, Dr. Robert Koch, the chief of the great "Gesundheitsamt" of the Prussian empire, the *bacillus tuberculosis*, is now universally recognized as the cause of all tuberculous processes in man and the inferior animals. It has likewise been discovered by experiment that this bacillus is wafted in the air, that it grows in lymph by preference, and when inoculated or injected beneath the skin it passes into the blood-current, and there seizes upon the germinal matter or sarcode of the white blood-cell, arresting the cell instantly in its course, causing it to assume enormous dimensions, interfering in that way by obstructing the blood-stream, and presently, when it ruptures, to discharge its myriads of spore-cells to attack in like manner contiguous leucocytes, until the current of blood in that tube is arrested. This of course speedily brings on those changes characterized by heat, pain, redness, and swelling.

Now, when the bacillus is breathed into the air-passages, if the whole of the respiratory membrane be sound upon its surface the bacillus will not grow, but will find a temporary lodgement in the mucus, and presently be snuffed up and hawked out, or coughed up and expectorated. If, however, these bacilli or their spore-cells lodge upon an abraded surface, where they gain ready access to the lymph-tubes, they colonize and grow there, and by slow invasion the whole lymphatic system may be destroyed. With these facts, we are at once prepared to appreciate both the means and the reason why tuberculous disease generally invades the respiratory organs first, and why tuberculosis as an inheritance generally proves fatal to the infant.

The specific cause of suppuration in wounds has recently been brought to light in the discovery of microbes, which collect in groups, and which, when assembled in large numbers, present a golden-yellow tint. This is called the "staphylococcus aureus," and to some recent experimental researches of Professor Cornil, of Paris, and Prudden, of New York, we are indebted for the demonstration that suppuration in wounds is invariably the result of the presence of this microbe.

Scarcely less brilliant have been the discoveries in chemistry and physiology. Merck, of Darmstadt, has at last succeeded in producing, by synthesis, many of our most valued therapeutical agents, and in 1879 he brought forth a new product by this agency, which is known and prized by every ophthalmic surgeon in the world.

In testing the refraction of the human eye it is necessary to suspend the focussing power in order to secure accurate results. For this purpose the sulphate of atropine, long in universal use, required in many cases from three to five days' constant use of the drug to bring on complete suspension of the accommodation, and then from twelve to fourteen days were required for the patient to recover fully from its effects. The hydrobromate of homatropine, made by the synthetical method of Merck, whilst at the same time free from toxical effects, is speedy and more uniformly efficient in suspending the accommodation than any drug hitherto employed for that purpose, complete suspension now being possible within the brief space of an hour and a half, and all signs of its effects disappearing uniformly within thirty hours. It is likewise powerful in the relief of pain, and may be instilled into the eyes of children with perfect impunity in solutions of the same strength as are used for adults.

Further, the manufacturing chemists now separate the active principle from the crude drug, and prepare our most potent medicines in granules, triturates, and compressed tablets, all divided for conveni-

ent use. With the exact knowledge now conveyed to the student of medicine in the clinic-rooms and laboratories of our colleges, the minutiæ of scientific processes must be mastered, and the graduate, armed with these powerful weapons of so many exact sciences, goes forth to practise in communities where general intelligence makes closer discrimination as to the qualifications of the medical practitioner than were made in former years. The aid of legislation has in recent years come forth as a thunderbolt from the people against empiricism and quackery.

In this great commonwealth your legislative authority has wisely ordered that no man shall practise without a diploma duly signed by one of the lawfully-constituted faculties of instruction in a regularly-established medical college in Pennsylvania. In the old State of Virginia, and in some other States, diplomas are no longer recognized as licenses to practise medicine, but are demanded as preliminary to the examination of the holder who is an applicant to practise in such States.

Now, with these powerful agencies of the law encouraging the efforts of able and earnest teachers in the regularly-established medical colleges of this country, there is no danger that too many people will qualify to practise the art of healing. There are, of course, many commercial schools throughout the country pretending to give instruction in medicine. These are found in almost every State, and the holders of their diplomas may be found in our cities, driving the street-cars, washing bottles in suburban drug-stores, and in many cases pointing horse-shoe nails or gently guiding the brush of paint over cold brick walls of our houses. With the rapidly-growing population of this country we have no excess of medical colleges, and there is, as Webster said to the student of law, always plenty of room in the higher walks of the profession. In the lower grades you shall gradually witness the decay that ignorance always suffers in the presence of scientific research.

Do not understand me to say that the practice of medicine itself shall ever reach the dignified plane of an exact science. The uncertain tenure of life, and the varying degrees with which the vital forces operate in the economy, taken together with the varying conditions in which they operate, make it impossible; yet, by the aid of experimental study, the present generation has witnessed the discovery of the cause of nearly all the infectious contagia; and in their treatment the ounce of prevention may now wisely be ordered. For most of them the pound of cure has not yet been isolated. May we not hope that some one of these young gentlemen just admitted to the ranks of the profession this evening shall achieve this great goal for which we are all striving? May we not hope that, great as have been the giants in the medical profession in this metropolis, greater genius is now being bent into the same channels, and that the march towards perfection shall not be abandoned by a single one among them until the devotees of medicine shall be able to establish a universal science?

ORIGINAL COMMUNICATIONS.

ARTERITIS COMPLICATING TYPHOID FEVER.

BY L. HARRISON METTLER, A.M., M.D.

IN a previous paper* I endeavored to show that an endarteritis of more or less severity is primarily the cause of the gangrene which occasionally determines the unfavorable result of an attack of typhoid fever. The possibility of the occurrence of this grave accident renders not unworthy a brief consideration of its diagnosis and treatment. The literature upon arteritis is far from being commensurate with the importance of the subject, a fact which is probably due to the great obscurity which overhangs the pathology of this disease. Of arteritis complicating typhoid fever the study has been still more unsatisfactory, and the anxious practitioner may look in vain through many of our standard authorities for suggestions as to the symptoms and therapy of an accident which may prove one of the most disastrous that he will encounter during the whole course of the fever. He will realize the feelings of the countryman of whom the poet says,—

> "Rusticus expectat dum defluat amnis; at ille
> Labitur et labetur."

Arteritis, general or localized, is believed by many to be not an infrequent

* Vide Philadelphia Medical Times, No. 502, vol. xvii.

companion of typhoid. It becomes therefore a matter of the highest moment to recognize it, if possible, *early* in the course of the fever, lest it may be the cause of a thrombus within the vessel itself, and thus of a secondary gangrene.

However it may be produced, arteritis with typhoid fever presents no symptoms *per se* different from those of any other kind of arteritis. The morbid anatomy, as proved by actual demonstration, is always the same in all forms. We find always the same roughening of the intima, the same engorgement of the walls, the same diminished elasticity, the same embryonic infiltration of the three tunics. There is a close intimacy between the blood and the blood-vessels, so that any deviation from the normal in the condition of the former will more or less affect the condition of the latter. The poisonous condition of the blood is the cause of the intima and media being the frequent origin of the inflammatory process, but it sometimes happens that a periarteritis occurs in typhoid fever with but a slight implication of the inner coats. Owing to the ramification of the vasa vasorum in the outer coats (appearing only in the inner coat when they are inflamed as in conjunctivitis), an inflammation of the external tunics will be sthenic and conservative in character, while in the internal tunic it will have more of a tendency to disorganize and to destroy.

Arteritis, when it occurs, manifests its first symptoms at about the latter part of the third week of the fever,—about the beginning of convalescence. Just when the patient's hopes of a speedy return to health are beginning to brighten, and everything is apparently progressing in a most happy manner, a quick, sharp, stinging pain is suddenly felt along the course of the affected vessel. In some instances, in which the inflammation is not so violent and so acute, this pain begins even earlier, and is then of a dull, aching character, gradually becoming more intolerable with the daily advance of the affection. In a case in which it occurred suddenly the patient likened it to the "stretching or tearing of the nerves of the limb." Appearing thus, as it were, spontaneously, it is increased by every movement on the part of the patient,—by walking, by simply maintaining the upright position, and especially by external pressure of any sort. By means of the last fact the site of the inflammatory process, when it is localized, can be readily determined by pressing with the fingers of the two hands over the artery, as in the case of the femoral or brachial, and along the sides, as in the case of the posterior tibial. As soon as the point of special inflammation is touched, the patient will scream with the intense agony. According to Legroux, the pain becomes intense only when the perivascular tissue is also inflamed. The severity of the pain is doubtless increased where there is also periarteritis, for it is in the adventitia that the blood-vessels and nerves terminate, whereas in the case of an endarteritis this pain is produced chiefly by the swelling and pressure of the tunics involved.

Along with this pain, which is in reality the only positive symptom of this obscure affection, there is violent throbbing, often felt in parts of the body situated at a considerable distance from the inflamed artery. This is due to the impaired elasticity of the arterial walls. Finally, there is a general weakening of the pulse-beat, which at length becomes hard and wiry in character, all due to the pathological condition of the walls of the vessel. Fever and general distress accompany these symptoms, as in other forms of inflammation. Up to this point the vessel may have still remained permeable, though its calibre may have been much diminished by the swelling of the coats. For, as Berard long ago showed, arteritis is not incompatible with the permeability of the vessel inflamed.

There are a few other symptoms, of variable degrees of certainty, however, which may sometimes be detected even before the more disastrous result of complete obliteration has taken place. Owing to the diminished blood-supply, there will be a slight lowering of the temperature in the parts, ofttimes as much as several tenths of a degree being detected by a delicate surface-thermometer. The skin assumes not unfrequently a bluish or violaceous hue, while its sensitiveness is considerably heightened. Sometimes it feels as though ants were crawling over it ("fourmillements"). Swelling, due to a slight œdematous condition of the limb, may appear. All of these latter signs are of far less significance than the pain, which of itself is almost pathognomonic of arteritis, and is readily differentiated from a neuralgia of

the neighboring nerve with which it is at all likely to be confounded, by the suddenness of its onset and its persistency after it has once announced itself. Furthermore, in neuralgia there would not be the diminished pulse and temperature, as well as the constitutional disorder, which accompany arteritis. Phlebitis and lymphangitis are easily differentiated by their production of a superficial redness in the part.

If now a clot has formed and the vessel has become permanently occluded, many of these symptoms—such as, for instance, the darkening of the skin, the œdematous swelling, the tingling of the nerves—will become still more pronounced, finally ending in a profound discoloration, numbness, complete loss of sensation, coldness, and not infrequently paralysis. But in addition to these we have two very distinct symptoms which foretell unmistakably the near approach of gangrene, even before the more superficial signs of the gangrene itself have become at all visible. The first is the complete cessation of all pulse-beat in the artery below the seat of the obstruction. The second is the sensation to the finger of a hard, irresistible, non-elastic cord produced by the occluded artery. Immediately after the appearance of these two signs, all the usual signs of gangrene begin to make themselves manifest. Blebs begin to arise on the surface, and either dry up or assume the form of pustules. Dark patches make their appearance, and, enlarging and uniting, gradually envelop the entire extremity below the point of obstruction. The part begins to dry up and mummify, or to assume the appearance of moist gangrene if the vein as well as the artery be involved. The swelling increases. Upon puncturing the skin, a peculiar yellowish or reddish fluid, of a disgusting odor, makes its appearance, exuding through the wound. So the mortification proceeds, until at length the line of demarcation becomes established, and the sphacelus is ready to be removed through the agency of nature or by the art of the surgeon.

In the treatment of arteritis complicating typhoid fever there are three special indications to be observed. The first is to remove, if possible, the exciting cause; the second, to allay the inflammation; the third, to prevent the formation of blood-clots.

With regard to the cause of typhoid arteritis, I have already stated that I believe it is to be found in the septic condition of the blood. According to Klebs, Eberth, Letzerich, Wernich, and others, there is a specific germ, the *bacillus typhosus*, which somehow produces such an alteration in that fluid as to render it more coagulable and irritant to the vascular walls. To this same condition of the blood, Estlander, Fernet (who reports a remarkable case occurring in a woman), Raynaud, Sigerson, and Duchenne attribute the faulty innervation of the arterial coats, frequently producing a vaso-motor spasm of more or less duration in the arteries, and consequently a gangrenous tendency in the distal parts of the extremities. Now, if it be true that these bacilli which enter the system through the respiratory and alimentary tracts are the cause of the poisonous condition of the blood, it is reasonable to suppose that to destroy them before they have migrated to any extent from these tracts into the general circulation is the most positive way of guarding against the arteritis directly dependent upon this deteriorated condition of the blood. To destroy these germs and to antagonize their injurious effects upon the circulation have of late stimulated to the highest exertion the energies of our ablest therapeutists. Antiseptics of all sorts have been brought into the field of experimental investigation, but so far the success has been unsatisfactory. There is the treatment by carbolic acid and iodine (the so-called German specific, and of which we have the most favorable reports), by chlorine, quinine, mercury, salicylic acid, resorcin, etc., none of which save the first offers anything like a satisfactory result. Indeed, judging from the results of antiseptic treatment, we are sometimes almost tempted to believe that perhaps, after all, the bacilli have nothing whatever to do with typhoid fever. Yet, what the pathologist tells us as to the results of his investigations, this is the proper line of investigation for the discovery of the radical cure of the disease. Perhaps the fault lies largely in the insufficiency of our experience and number of instances in which the antiseptic treatment alone was used to the total exclusion of other remedies, which may have had the effect of modifying the results. As soon as we shall have learned of an effectual antiseptic treatment for typhoid fever,

we shall have learned *par avance* the best prophylactic treatment for the complicating arteritis and its disastrous results.

Again, granting that the cause of the arteritis is the deterioration of the blood by an organized germ, would the use of antiseptics be of any avail in checking it when already in progress? Certainly not, so far as they are employed simply as antiseptics. As antipyretics some of them may be employed with the greatest advantage—as, for instance, mercury in the form of calomel, quinine, salicylic acid, and resorcin—as soon as the secondary fever resulting from the arterial inflammation shall have occurred, which is usually at about the beginning of convalescence. About this time, however, the general improvement in the condition of the patient indicates that the bacilli and their immediate influence upon the blood have been overcome. The damage to the arterial walls has already been done, and our attention must now be directed to follow out the last two indications of the treatment.

Any remedies employed during the course of typhoid fever to lower the temperature, to control the secretions, and otherwise to modify the fever itself will have the same salutary effect upon the course of a latent arteritis that may be present. In all probability, this is the reason why an obliterating arteritis in the larger vessels is comparatively so rare a complication, while in the more minute arteries it is so much more frequent, as is seen in its frequent after-effects, such as the hemorrhagic infarcts of the various viscera and the almost constant muscular degenerations. With the aid of the antiphlogistic treatment employed in the typhoid fever, the larger vessels are enabled by their greater strength and vitality to resist the tendencies to become inflamed.

When an arteritis of any of the larger vessels may have been happily detected early, most prompt and decisive treatment will be necessary to the hope of preventing the formation of a thrombus and mortification of the part. Though an attack of local arteritis may end occasionally in resolution, the fibrinous deposit being absorbed by the aid of appropriate remedies, by far the majority of the attacks end in complete obliteration of the lumen of the vessel. Nevertheless, we should never despair, but at once employ measures to bring about a resolution if possible. A free action of the emunctories should be promoted by the use of purgatives, diuretics, and diaphoretics. For this purpose we may use the oleaginous purgatives, castor oil, calomel, antimonials combined with refrigerant salts (nitrate and acetate of potash), acid drinks, etc. The vascular excitement should be lowered by the use of aconite root, veratrum viride, or hyoscyamus in camphor mixture. If the patient can bear it, colchicum, antimony, and mercury with calomel may be employed to assist the absorption of the fibrinous concretions. Pain should be relieved by opium internally or externally, preferably by morphia hypodermatically.

In diseases of the vascular system we must not rely wholly upon medicines. The diet should be light yet nutritious, consisting chiefly of the farinaceous foods. Chomel and others regard the adynamic form of typhoid fever as the most favorable to the development of the gangrenous complications. Hence the vital powers should be maintained by the judicious use of tonics. Stimulants should not be used unless they are urgently demanded by the rapid sinking of the patient.

The local treatment of arteritis, when the site of the inflammation has been positively established, is quite as important as the systemic. The limb should be elevated, leeches applied, hot stupes placed over the course of the artery, or, if more agreeable to the sufferer, cold-water dressings, poultices of chamomile-flowers, or decoctions of poppy-heads, to quiet the inflammatory action and to relieve the pain. The patient's mind and body should be kept as tranquil as possible. In this way there is a bare chance of averting the threatened gangrene. But so obscure are the signs of arteritis itself that by the time its diagnosis is fully established obliteration has already taken place and the gangrenous spots have already begun to appear.

Now the most important duty of the physician is to support the patient and to stimulate the circulation by means of alcohol and digitalis. The peripheral circulation should be awakened, if possible, by the alternate application of heat and cold. As suggested by Dr. Keen, the constant-current battery may be sometimes advantageously used for the same purpose. If the gangrene still continues to advance and all our efforts to restore

the circulation have been futile, all we can then do is to make numerous incisions into the mortified tissue, cover it with laudanum dressings, dust over it absorbing powders, aromatics, and antiseptics, and watch for the appearance of the line of demarcation. The amputation, which is the *dernier ressort*, is rather a surgical than a medical question.

1938 North Broad Street, Philadelphia.

A CASE OF TIC DOULOUREUX OF TWELVE YEARS' STANDING TREATED BY LARGE DOSES OF THE SALICYLATES WITH MARKED SUCCESS.

Read before the Philadelphia Neurological Society, February 28, 1887,

BY FRANCIS X. DERCUM, M.D.,

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ON November 30, 1886, the writer was summoned to attend Mrs. K., aged 52 years. She was a German by birth, of good physique, and had been the mother of a number of healthy children. She told me at once that she was a sufferer from tic douloureux. It needed no exhaustive investigation to prove that her statement was unfortunately true. As she spoke she was constantly interrupted by frightful paroxysms of pain. She moved her jaws as little as possible, and her words were uttered so cautiously as at times to be indistinct. She gave me her history with great difficulty and at the expense of much suffering. Twelve years ago, while apparently in good health, she was suddenly attacked by pains in the right side of the face. These gradually increased in intensity. Previous to the onset she had had no illness whatever, and she had not as yet entered upon the menopause. All of her functions, as far as I could ascertain, had been normal. She herself attributed her affection to an attack of cold.

Her suffering had been practically continuous. The paroxysms had varied at times both in frequency and severity. Sometimes they occurred many times a minute, and again but four or five times an hour. When their intensity was at its greatest height, she felt frightful darting pains, which culminated—to use her own expression—as though her face were being rent to pieces, or as though it were bursting from an explosion. When the pains were comparatively mild, they were simply shooting or darting in character. She was always worse in cold, damp, or stormy weather, and suffered much less when the weather was mild and clear.

A close examination revealed the fact that the nerve-distribution most affected was that of the superior maxillary. The inferior maxillary was also decidedly affected, but the ophthalmic division did not seem to be affected at all. The cheek, especially about the infra-orbital and malar regions, was excessively hyperæsthetic. A slight touch was sufficient to provoke a spasm of pain. The same was true, though to a less extent, of the gums, —*i.e.*, on the affected side,—from which the bulk of the teeth, the molars and premolars, had been fruitlessly removed.

Further questioning elicited the statement—and it was an all-important point in her history—that during the entire period of twelve years she had had but one remission, — *i.e.*, one *complete* remission, —and this had occurred under the following circumstances. Some two years ago her physician had ordered her to Atlantic City. Here she contracted severe rheumatism, which affected mainly the lower extremities. The attack lasted upwards of eight weeks, and during all of this time she was free from her tic douloureux. Just as soon, however, as the rheumatism subsided her tic reappeared, and had continued with varying degrees of intensity up to the present time.

Notwithstanding this history of a prolonged remission, I hesitated about giving the patient any encouragement. She had been under the hands of various physicians, who had made unusual efforts in her behalf, and who had finally pronounced her case incurable. I, too, told her that we could expect but little from drugs, and that the only remedy that suggested itself to me was a surgical procedure, the propriety and results of which were themselves open to question. I referred to nerve-stretching, which I briefly explained to her. She expressed herself as willing and even anxious to have trial made, saying that "if it didn't kill her it couldn't make her any worse." I left her without writing a prescription, promising to call again in a few days.

Two views, of course, presented themselves regarding this case: one that it was

of organic origin, the other that it was symptomatic of some general disease or condition. In favor of the first view was the long-continued existence of the affection. The latter had existed for twelve years, but it appeared to me that the history of a marked and prolonged remission of eight weeks rendered an organic origin extremely improbable. Certainly we should not expect a diseased bone or membrane to accord with such a history. On the other hand, it was difficult to accept the second view. The patient presented no evidence of a constitutional trouble. Her general health, as it so often is in these cases, was good. There was no evidence of specific disease, and no affection of the kidneys. The patient's history suggested a doubtful connection of rheumatism with the trouble, but it seemed strange that, if rheumatic, the latter should have persisted for so many years.

I finally decided, before attempting the operation of nerve-stretching, to test the question of rheumatism very thoroughly; and, accordingly, at my next visit I prescribed oil of gaultheria in fifteen-minim doses, to be taken every three hours. After four days had elapsed I called again, and, to my surprise and pleasure, found that my patient was decidedly better. The paroxysms were far less frequent and much less painful. The hyperæsthesia of the cheek and gums had also altogether disappeared. The physiological action of the salicylate was evidenced by decided tinnitus. I directed the remedy to be continued, and called at intervals of three or four days until December 20, when I found my patient suffering from a diarrhœa, the result of an indiscretion in diet. Up to this time she had steadily improved, and she was to all intents and purposes well. Previously she had never been able to eat without exciting pain. The pleasure of eating with comfort had resulted in eating too much, and hence the diarrhœa.

I now stopped the oil of gaultheria, and for a number of days directed my attention to her digestion. The diarrhœa was promptly relieved, and on December 24 she ventured out of the house. It was early in the morning, there was snow upon the ground, and it was very cold. This exposure was followed by a mild recurrence of the tic. She had a few paroxysms of moderate severity. She of her own accord resumed the oil of gaultheria.

On December 26 I saw her again, and now replaced the oil of gaultheria by salicylate of sodium, of which I gave twenty grains every four hours. This she tolerated well. Every trace of tic douloureux now disappeared. She voluntarily increased the dose of the salicylate to thirty grains, thus taking one hundred and twenty grains a day. Her fear of a return of her terrible affliction caused her to persist in this excessive dose until December 29, when, upon my urgent advice, she diminished the dose to twenty grains three times a day. The large doses had caused marked depression, her tinnitus was excessive, she was decidedly deaf, and I fancied that her pulse was weak. Besides, she was taking very little food, and her digestion was much impaired. Although she had not the slightest return of pain at any time, she persisted in the use of the salicylate until January 12, when it was finally abandoned.

Since that time she has been exposed to bad weather on numerous occasions and at various hours of the day and evening. Upon one occasion, indeed, she caught a severe cold, which gave rise to a severe bronchitis, but without any return of the tic douloureux. At present writing she is entirely well. How long she will continue so is, I confess, a matter of doubt. However, I believe that the present cessation of the pain is directly due to the action of the salicylates, and to nothing else. The effect was too sudden and striking to be attributed to other causes. When the oil of gaultheria was stopped on account of the intercurrent diarrhœa, the pain reappeared, but immediately ceased when the salicylate was resumed. I believe also that the good effects of the drug were due to the large doses employed.

The mode of action of the salicylates in this case is a matter of interesting speculation. It is possible, of course, that the affection was rheumatic in its origin, and that the salicylates were efficient on this account. On the other hand, it is not impossible that the remedy acted in another and entirely different way, and the following hypothesis seems to me plausible. That salicylic acid acts directly on the nervous system cannot, I think, be doubted. To me the single fact of the ringing in the ears is an evidence of such action, and the further fact that increased doses result in deafness a confirmation of this idea.

Now, if salicylic acid produces ringing in the ears and even deafness, it is probably by a direct action of the drug on what we may call the acoustic protoplasm. That is, the acoustic protoplasm is *molecularly impressed;* it has the rates and directions of its molecules so affected as to give rise first to abnormal sensations, and finally it has the molecules so much arrested or inhibited as to give rise to an entire loss of function. May it not be that the action of the salicylate in this case is due to its modifying impress on the abnormal movements going on in the molecules of the diseased nerve? and is it not possible that it deadened the hyperæsthesia and annulled the pain by virtue of the same quality by which it produces deafness? I give this speculation for what it is worth.

My hope in reporting this case is that others will give the salicylates a fair trial, even in cases in which there is no rheumatic history; and, further, that in making this trial they will steadily increase the dose until an effect is produced or the limits of safety are reached.

A CASE OF BRONCHO-PULMONARY MYCOSIS.

BY WILLIAM F. WAUGH, M.D.,

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PERHAPS no other plan of treatment recently proposed has excited so much attention as Cantani's novel method of treating consumption by bacteriotherapy. The singularity of the therapeutic measure, and its apparently logical deduction from recent developments in bacteriopathology and biology, combine to invest it with peculiar interest. But, whether the inference be logical or not,—whether the introduction of bacterium termo into the pulmonary tract, as an antagonist to the bacillus tuberculosis, be a genuine addition to our therapeutic armamentarium, or perchance may turn out to be rather a bringing of the Saxons into Britain,—there are two questions which should be settled before the experiment is made on a large scale.

First, Is the introduction of bacterium termo a safe and harmless procedure? Second, Is it efficient in this case? Both questions should be settled before the method is applied in the treatment of pulmonary tuberculosis; and both could readily be determined by experiments on animals.

Perhaps the history of the following singular case may assist in answering the first question.

The patient is a man, 25 years of age, spare in habit, with delicate digestive organs. His father, when young, had bronchial hemorrhages, but is still alive and reasonably healthy. One member of the family died of phthisis. During the preceding year the patient had suffered with a vesical affection, but had been quite well for some months before the present illness began. He was connected with the management of a cemetery.

One day the body of a woman was brought to this cemetery, with a certificate which gave pulmonary consumption as the cause of her death. Her natural weight was one hundred and thirty pounds, but shortly before her death she had rapidly increased, until the body weighed two hundred and twenty pounds when she died. The body was placed in a crypt in the receiving vault.

Some time subsequently the workmen reported to Mr. B. that there was something wrong with this vault. The door was opened, when it was found that the floor was covered with a putrid substance, which was traced to the crypt in which this body had been deposited. The body of the consumptive woman had burst, and the fluids had overflowed from the coffin and escaped from the crypt.

The stench was pronounced to be something indescribable. So terrible was it that the employees of the cemetery, men who may be supposed to be fully familiarized with such things, could not be induced to enter the vault to clean it out, until Mr. B. set them the example by going down into it himself. Previous to this, large quantities of carbolic acid and of chloride of lime had been thrown into the vault; but even by this means the stench could not be overcome.

As soon as Mr. B. entered the vault and began to inhale fully its mephitic air, he began to shiver and experience the sensations known as "taking cold" in the most intense form.

After remaining at his home for some days, on September 20, 1886, he presented himself at my office. He could scarcely talk for the constant cough. He had a temperature of 102.5°, and stated that he had had night-sweats. There was some redness of the fauces, which disappeared after a few applications of tannin; but the cough was but little relieved. The expectoration was of thin, colorless fluid, very abundant. His sleep was greatly disturbed by the constant coughing. Altogether it was a typical bronchorrhœa.

In the first number of *Progress*, a little foot-note stated that a valuable indication as to

the nature of lung-affections could be drawn from noticing whether the sputa dried up, as a simple bronchial discharge dries up in a few hours, whereas tubercular sputa liquefy and become pure cultures of tubercle-bacilli. Recollecting this, I inquired of Mr. B. if the sputa became dry, and he at once responded that he had noticed with surprise that they did not, but that, after remaining in a receptacle from morning till evening, the masses were even more fluid than when first expectorated.

It appeared evident that here was an infection of the pulmonary region with some morbific agent. But with what? Was it due to the inhalation of the carbolic acid, of the bacillus tuberculosis (presumably the cause of the woman's death), or of the bacterium termo, the agent of decomposition, which evidently was at work in the fetid vault?

His body exhaled the odor of the acid for days after he entered the vault. But the action of this agent, which might set up a broncho-pneumonia, would not account for the bronchorrhœa.

To settle the question, I procured a specimen of his sputa, and sent it to Dr. De Lannoy, of the Medico-Chirurgical College, with a request that he should examine it microscopically. I subjoin his reply:

"Professor Waugh,—The sputum, which I examined very carefully, contains *no tubercle-bacilli, but fairly swarms with putrefactive forms, the so-called microbacteria; these occur in zoöglœa as well as in chains.*

"The epithelium from the air-vesicles is strongly pigmented. This change is to be attributed to broken-down blood-corpuscles which have parted with their coloring matter.

"If this sputum be perfectly fresh, it certainly does, as such, contain an extraordinary number of microbacteria.

"From what you said of the trouble, I judge it to be lodged in the smaller bronchi. The presence of vesicular epithelium, pathological in character, would corroborate this, and the necessarily long-continued retention of the expectorated matter might account for the large number of micro-organisms.

"Yours very truly, C. W. De Lannoy."

During the succeeding two months the patient improved somewhat under a carefully-directed treatment, but did not recover his accustomed health. Full alimentation was enjoined. The ordinary remedies for bronchorrhœa were tried, including Griffith's mixture, cubebs, copaiba, lactophosphate of lime, turpentine, and benzoin. The use of hydronaphthol with an atomizer proved more beneficial than anything else which I tried.

But after two months of treatment I was compelled to send him to San Antonio, Texas. At the time he departed his fever had not quite disappeared, and the expectoration had diminished greatly, but still retained its fluidity, and if treatment were suspended for a few days it increased to its first proportions.

Since his arrival in Texas he has improved very much, has increased thirty pounds in weight, and has gained in strength and in spirits. The cough and expectoration have decreased, the fever scarcely ever appears, but he has on several occasions expectorated a little blood. From his letters I judge that a certain amount of pneumonic phthisis has supervened. An examination by a skilful physician of San Antonio failed to detect any sign of tubercular disease or of tubercle-bacilli in the sputa. I do not as yet feel justified in allowing Mr. B. to return to this climate, especially at this season. The improvement still continues, and in all probability he will make his permanent home in Texas.

Altogether, this appears to me a case of infection with putrefactive bacteria. It shows that *Progress* went too far in claiming the liquefaction of the sputa as a certain sign of tuberculosis, as it may be due to the presence of other bacteria. It may throw some light on the etiology of other cases of bronchorrhœa, not colliquative in character. Finally, it should make us cautious in instituting extended trials of Cantani's method, until experiments on inferior animals have demonstrated the value of bacteriotherapy as compared with its dangers. At any rate, it seems better policy in the human body, as in the body politic, to strengthen the system against the attacks of the enemy rather than to introduce foreign auxiliaries.

RENAL INADEQUACY AS A CAUSE OF INSOMNIA.

BY LAMBERT OTT, M.D.,

Member of the Philadelphia Neurological Society.

THIS subject—renal inadequacy as a cause of insomnia—was called to my notice incidentally while having a case under treatment. The patient was a man,

aged 30 years, leading a sedentary and literary life. He endeavored by out-door exercise, good habits, and careful meals to avoid the many physical and mental perversions which usually beset the hard-working *littérateur*. He had occasional and apparently causeless attacks of sleeplessness, occurring sometimes in the earlier parts of the night, and oftener after the midnight hour. He has often lain from two to six o'clock in the morning, utterly unable to sleep, but not suffering pain or headache; nothing more than great restlessness, a tossing from one side of the bed to the other, lying awhile on the back, then on the side, and so on, changing every few minutes; and when he determined to remain in one position until sleep came, an indescribable tired sensation and soreness pervaded the body, especially the limbs, and before his will-power could intercept the act his body had involuntarily changed to another position.

I tried all available means to effect a cure, and upon asking for a sample of urine for examination he informed me that in those nights when he suffered most there was very little urine passed. Accepting the hint, the next bad night I had the quantity measured, and found that from seven in the evening till six o'clock the next morning he passed only one-half ounce, the following day passing the usual amount. I examined this half-ounce of urine passed, and found it scant in sediment, not highly colored, slightly acid in reaction, negative as to albumen and sugar, and normally proportioned as to uric acid and urates, and increased as to triple phosphates and oxalate of lime.

In obedience to my directions, he took more out-door exercise, and drank water freely, with an improvement in his sleep and a nocturnal increased flow of urine. He took at the same time digitalis three times daily for an irritable heart, which, by increasing the intravascular pressure, indirectly assisted in causing the greater secretion of urine. He improved under this treatment, the insomnia disappearing. Later he disregarded my precautions, and relapsed, having sleepless nights and a scanty flow of urine. The urine was examined with the same results.

First night of insomnia he passed one-half ounce of urine; second night, one and one-half ounces; third night (treatment instituted), six ounces.

During the relapse he passed the following quantities: First night of insomnia, three-fourths ounce; second night, three ounces; third night (treatment instituted), eight ounces.

He occasionally relapsed, and during these sleepless nights he had always renal suppression. Repeated examinations for albumen and sugar were negative; but an abundance of phosphates and oxalate of lime was found.

The question arises, Is the renal inadequacy a cause or an effect of the nervous disturbance? Reasoning from analogy, we may conclude that it is the cause. In the lighter forms of uræmia there is sleeplessness preceding the convulsions and coma. Is it the retention of the urine-salts or the altered intravascular pressure that is the disturbing element? These are questions to be solved.

The treatment most successful was as follows. Copious drinking of water two hours before going to bed, and just before retiring a full glass of beer. During the waking hours he took digitalis, added to a general hygienic regimen. The patient noticed that when he diminished the quantity of drinking-water at the time there was a tendency to insomnia he rested badly, and it seemed as if the gradations of sleep were regulated by the quantity of water drunk. The case is of interest, and may suggest research leading to a valuable clinical discovery.

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TRANSLATIONS.

Operative Treatment of Empyema.—M. Guermonprez, of Lille, reported to the Société de Chirurgie the case of a man, 27 years old, who had pain in the right side of his chest, cough without expectoration, and dyspnœa. Later a most fetid expectoration appeared, with increasing emaciation and weakness, and an abscess pointed in the ninth intercostal space. When opened, it was found necessary to resect portions of the ninth and tenth ribs. The pleura was much thickened, and a circumscribed empyema was detected. A superficial slough was removed from the pulmonary surface, and a drainage-tube inserted. A return of the symptoms was relieved by frequent washing out of the abscess-cavity with

corrosive sublimate solution, and recovery followed.

The question of the surgical treatment of empyema has also been discussed by A. Kasauli (*Wratsch*, 1886) in a report of twenty-one cases in the surgical wards of the Odessa Hospital, under Dr. Duchnouski. The cases were principally young soldiers, the empyema usually succeeding upon a croupous pneumonia, but in three there was tuberculous disease of the lung and pyo-pneumothorax. Ten of the cases died,—five with tuberculosis, one with tetanus, one pericarditis, one septicæmia, and two from exhaustion. Of the others, three retained a fistulous connection; eight recovered completely, with a linear scar at the point of operation. Fifteen out of the twenty-one cases required resection of one or more ribs; in one case the resection was performed on both sides. The drainage-tube remained *in situ*, on an average, about thirty-four days; the bandages were removed only every three or four days; the pleural sac was very seldom washed out. The patients recovered, on the average, in about forty-four days. The method of Dr. Duchnouski is as follows. In case of large collection of fluid and displacement of the heart, a preliminary aspiration is made from seven to ten days in advance, so that by the time of operation the organs have resumed an approximately normal position. A bottle about one-fourth filled with sublimate solution is attached to a rubber tube, the end of which dips beneath the surface of the solution. As soon as a portion of the rib is removed, a small opening is made into the pleura and the drain inserted; it is then stitched to the skin, fastened with a spring clamp, and attached to the gum tubing and bottle. After the antiseptic dressings have been applied, the clamp is to be removed, and the pus flows gradually through the tube into the bottle. On account of the pressure in the pleural cavity, the solution does not ascend into the chest. At the end of twenty-four hours the bottle is changed, and the quantity of pus measured. Forty-eight hours after the operation the bottle is to be removed, and the pleural wound enlarged, irrigated, and drained. Antiseptic dressings are then resumed. By this procedure, irritation of the pleura, hemorrhage, violent coughing, and dyspnœa are avoided. This has given very satisfactory results.—*Centralblatt für Chirurgie*, No. 10.

Treatment of Diphtheritic Croup during the Period of Incubation.—Dr. Dumas broaches the question in the *Bulletin Général de Thérapeutique*, January 30, "Is there any antiseptic medication for croup during its incubation period?" After the disease has become developed, treatment of all kinds is often futile. Cases differ very widely, however, in their degree of malignancy. In the same family in which fatal cases occur, others may appear in which the disease is confined to a patch of false membrane on the tonsils without other symptoms. The problem sometimes arises as to the treatment of children or others known to have been exposed to contagion. In such a case it is an assumption warranted by experience that they will have an attack of diphtheria. When such an exposure has occurred, the usual course followed is isolation of the cases, frequent examinations of the throat, and attempts to destroy the false membranes immediately upon their appearing by applications of perchloride of iron, papayine, lemon-juice, etc. These, with pepsin solution, are to be preferred to nitrate-of-silver applications, formerly so highly praised. Dumas has used for several years the tincture of iodine as a preventive of diphtheria, given after exposure, in the following combination:

℞ Aquæ, 80 G.;
Aquæ aurantii florum, 20 G.;
Tincturæ iodi, viii gtt.;
Potassii iodidi, 10 cgr.;
Syrupi, 20 G. M.

To be taken in twenty-four to thirty hours, in half-teaspoonful doses. To be continued for about a week.

In several cases in which this antiseptic treatment has been used the results have been satisfactory. It is quite innocuous, and no bad symptoms have been observed.

This method is certainly worthy of a trial in hospitals for children, and in infant asylums, where croup often prevails.

Hydrocele treated by Injections of Corrosive Sublimate.—An aqueous solution of one to one-thousand of the bichloride of mercury, used in the same way that tincture of iodine has been employed in the treatment of hydrocele, is advocated by Sarrazin (*Thèse de Paris*, 1885, No. 190). It is aseptic, although it acts as an irritant and causes slight pain; inflammatory reaction ensues, and adhesion takes place.

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EDITORIAL.

THE NEUROTIC COMPLICATIONS OF DIABETES.

THE nervous disturbances complicating diabetes have attracted the attention of a number of careful observers. Disturbances of sensation, such as diminution of the tactile sense, formication, itching, and pricking, are more or less frequent symptoms. Pruritus vulvæ has long been recognized as a symptom of the disease. Pains in the joints simulating rheumatism are also sometimes observed. A practical point of some importance is that these pains rapidly yield to salicylic acid. This drug has lately been used to a considerable extent and with some success in the treatment of diabetes itself.

Among the most frequent and characteristic sensory disorders of diabetes is an uncomfortable feeling of weight and fatigue in the thighs. This is not much increased by exercise and not mitigated by rest. In fact, it is generally more decided in the morning, on arising from bed. During the day it seems to diminish, sometimes passing off entirely.

Another frequent symptom is headache. This is sometimes merely a sensation of pressure or heaviness; at other times neuralgic pains in the frontal, occipital, and post-cervical regions; and occasionally a typical "sick headache."

Sciatic neuralgias, generally bilateral and extending to the sural and plantar branches, are occasionally present in diabetes. The pains are very severe, and often suggest some structural disease of the spinal cord. According to Ziemssen, these neuralgias are partly, at least, due to a neuritis. The nerve-pain may also be localized in the dental and intercostal nerves, or in one of the internal organs,—stomach, ovaries, kidneys, or uterus.

Motor pareses or paralyses, in combination with sensory disturbances, are also observed sometimes. A case is recorded by Lecorché in which tetanoid spasms accompanied by pains occurred in the forearms and legs. Cases not infrequently simulate locomotor ataxia, many of the characteristic symptoms of the latter disease being present, including the abolition of the patellar tendon reflex. In fact, absence of the tendon reflex seems to be a frequent symptom of diabetes, for in the statistics of Bouchard, who first called attention to the relation of the knee-jerk to diabetes, this phenomenon was absent in thirty-seven per cent. of the cases. This observer's figures show further that the abolition of the patellar tendon reflex is a symptom of grave omen in diabetes.

Several cases have been reported in which sugar appeared in the urine during the course of multiple sclerosis. The explanation offered for this is that a sclerotic plaque in the floor of the fourth ventricle gave rise to the glycosuria. In these cases the knee-jerk was increased, and no other symptom of diabetes beyond the saccharine urine was present.

In the neuralgic and paretic complications of diabetes, massage and the constant galvanic current are serviceable, in addition to the usual well-known remedies addressed to the morbid condition of the system. Among the latter, opium, codeine, salicylic acid, and ergot seem to promise most success.

HYPNOTISM IN A NEW RÔLE.

SINCE the observations of Braid in 1842 upon provoked somnambulism, many volumes and essays have been written upon this neurosis. Of late years a number of new facts have been brought

to light, especially by the studies of Charcot and Richer at the Salpêtrière, and of Dumontpallier, Bernheim, Beard, and others. In minor surgery, hypnotism, as this state of artificially-induced somnambulism has been called, has proved a valuable expedient. Esdaile and others have reported a large number of surgical operations performed while the patient was in this state, without consciousness or suffering, although no anæsthetic was given. The same expedient has been recently resorted to in Germany in childbirth, with reported satisfactory results; and experiments are now making with this expedient in treating mental disorders, with fair promises of success.

At the meeting of the Académie de Médecine* (March 15) M. Mesnet reported the details of a remarkable case of a young man, 19 years of age, who had been a somnambulist since his thirteenth year, and had once been arrested for pilfering from a merchant's stand while in this peculiar mental state. Being taken to the Hôtel-Dieu, he exhibited most decided evidences of somnambulism: anæsthesia and analgesia were complete, and there was also loss of temperature-sense except in certain symmetrical regions. Hypnotism was readily induced by the usual method, and the ordinary phenomena were exhibited. Upon restoration of consciousness there was no recollection of what had passed; but, upon inducing hypnotism again, the memory was restored of what had occurred in the preceding condition.

Among other orders given to him were to return upon the day after to-morrow and to purloin the watch from the pocket of a certain by-stander. At the appointed time he passed into the hypnotic state, and at once performed the act without any prompting. Subsequently the patient had a severe attack of hystero-epilepsy, and upon recovering his senses seemed entirely unaware of what had occurred.

The possibility of human automatism being admitted, the medico-legal relations of such cases deserve study. A similar case, that of a young married woman who asked for divorce upon the ground of undue influence, some months ago was the sensation of the hour in Paris courts, and has already attracted the attention of the novelists.

Our courts of law, already puzzled with the question of moral and legal responsibility in neurotic subjects, will find hypnotic automatism quite as difficult a problem to decide.

* La France Médicale, No. 33, 1887.

STATE BOARD OF HEALTH.

THE sixth regular meeting of the State Board of Health was held in Harrisburg on Thursday, April 14. While much routine business of importance to the State was transacted, the chief interest of the occasion to the public centred in the annual address before the Board, which was delivered in the hall of the House of Representatives on the evening of the same day, by the Hon. E. A. Wood, M.D., of Pittsburg, formerly a member of the State Legislature, and well remembered by his colleagues in that body as a brilliant, forcible, and witty speaker. His address was worthy of the occasion, and constituted an intellectual treat to all who had the good fortune to be present.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY held a stated meeting on the 13th instant, and again put itself upon record in opposition to the American Medical Association upon the question of the right of women to membership. The Council, among other candidates, nominated Dr. Anna E. Broomall, who failed, however, to get the requisite two-thirds vote.

LEADING ARTICLE.

OBSERVATIONS ON THE OCCURRENCE OF FREE HYDROCHLORIC ACID IN THE STOMACH; ITS RELATION TO DIGESTION, AND THE DIAGNOSTIC IMPORT OF ITS INCREASE OR DECREASE IN DISEASE.

INCREASED attention has been directed during the past few months, on the continent of Europe, to this subject, which has been almost totally neglected in America.

Among the numerous investigations reported, we notice the careful studies of Riegel as particularly worthy of attention (*Zeitsch. f. Klin. Med.*, B. xi. H. 2 and 3). In one year he made thirteen hundred and seventy-nine chemical examinations of one hundred and twenty-two cases, and concludes that there are four conditions of the secretion in diseases of the stomach: 1st. It is normal. 2d. Free HCl and the peptic strength is diminished or absent. 3d. The amount of the organic acids is increased, although HCl is also present. 4th. There is an excessive secretion of HCl.

He departs from the method of Leube,—who uses some irritant, as ice-water, to excite the secretion of the gastric juice,—and pursues the following plan. He gives the patient a meal consisting of a mixed diet, and, after six or seven hours, removes the *undiluted* gastric contents with the sound. Digestion should be complete after seven hours; therefore, if any portions of undigested food remain, it is a proof that the process has been abnormally delayed. The matter obtained is tested for its reaction and peptic strength, and for the presence and amount of free HCl and of the organic acids. He states that vomited material cannot be utilized for purposes of examination, a fact corroborated by our own experience. Free HCl does not normally occur in the stomach until about three hours after the ingestion of food, and vomiting usually takes place before this time has elapsed.

He claims that HCl is almost constantly absent in *carcinoma ventriculi*, and that the peptic strength is lacking. This absence of acid is the surest symptom of the disease, and where acid is present he thinks the diagnosis of carcinoma is not warrantable. During an experience of seven years he has never known this sign to fail. In certain cases also of a reflux of bile into the stomach he found HCl and pepsin absent.

On the other hand, in *ulcus ventriculi* the quantity of free HCl is usually increased. In *simple dilatation* the acid is almost always present, and is sometimes increased in amount, and the organic acids are often abundant; while in *chronic dyspepsia* there is oftener an increase than a diminution of the quantity of HCl,—contrary to the view very generally held. Lactic acid persists in this disease for a longer time after meals than is normally the case.

In some clinical observations in the *Deutsche Med. Wochensch.*, Nos. 47, 48, and 49, 1886, Korczynski and Jaworski detail the examination of fifty-two cases of ulcer or of cancer of the stomach. The function of the viscus was tested in three ways. 1st. Aspiration after strict fasting was practised. If nothing was obtained, one hundred cubic centimetres of distilled water were ingested and the operation repeated, and the gastric contents chemically tested. 2d. A modified Leube's ice-water method was employed. 3d. The digestive power of the stomach was tested by the ingestion of portions of boiled white of egg, the contents of the stomach being then aspirated after a certain length of time. Their results confirm the statement made by Riegel and others, that free HCl is absolutely essential to digestion, pepsin alone not being sufficient. This is certainly a matter to be remembered in our treatment of gastric disorders.

In twenty-four cases of *ulcer* they found the gastric secretion always increased in quantity, present even after fasting, and always containing a considerable amount of HCl.

In twenty-eight cases of *cancer* digestion was always retarded, and in many instances the stomach was found to contain remnants of food, even after fasting. HCl was present in but two patients, both under thirty years of age.

The authors conclude that free HCl is almost invariably absent in cancer, but do not agree with Riegel that this is due to the action of the cancerous juices upon the gastric secretion, rather believing that an already established mucous catarrh, with an absence of HCl, as seen in old

persons, predisposes to the development of the neoplasm.

The modified Leube's ice-water method referred to is described by Jaworski and Gluzinski in the *Zeitsch. f. Klin. Med.*, B. xi. H. 2 and 3. It consists in the administration by the sound of two hundred cubic centimetres of ice-cold water upon an empty stomach. The sound is then withdrawn, and after ten minutes reintroduced and the contents of the stomach aspirated, without the addition of more water.

Sansoni (*Rivista Clinica*, No. 10, 1886) has made a careful study of four cases of cancer, and found HCl in no instance. In numerous other cases, not cancerous, HCl was always present in men, but often absent in women, especially in hysterical subjects. He thinks this is due to a longer continuance of the food in the stomach of women, and the subsequent absorption of the acids by the peptones. He considers the absence of free HCl an important corroborative sign of carcinoma.

Many writers have disputed the statement that free HCl is absent in cancer of the stomach. Among the more recent of these are Cahn and V. Mering (*Deutsch. Arch f. Klin. Med.*, B. xxxix. H. 3 and 4),* who claim that the methyl-violet test usually employed is entirely unreliable, since other substances besides HCl may give the same reaction, and still others may hinder or conceal it, though the acid be present. They have, therefore, made accurate chemical analyses of the secretion, and reach the conclusion that both lactic and hydrochloric acids are present with a mixed diet, while with animal diet the latter alone is to be detected. They believe, too, that HCl is usually present in cases of carcinoma, although perhaps in smaller quantities than usual. On the other hand, it may be occasionally absent in fever and in severe anæmia. In this connection we may note that Ewald claims that lactic acid develops even after a purely animal diet.

Yet the greater weight of evidence goes to show that the absence of HCl, at least as indicated by the ordinary tests, is a very important diagnostic sign of carcinoma. The subject is certainly worthy of the attention of American physicians.

Regarding the tests which have been employed, Riegel advocates tropæolin, methyl-violet, and Congo paper for HCl, and Uffelmann's carbolated-iron test for lactic acid. Numerous others have been recommended. Our own experience has led us to put most faith in the methods with methyl-violet and carbolated iron. We have made no trial of Congo paper, and tropæolin and fuchsin have proved unsatisfactory. The tests are easily performed as follows:

1. To a weak aqueous solution of methyl-violet in a test-tube, add a portion of the filtered gastric contents. The violet color becomes distinctly blue if HCl be present. The test is delicate for one and one-fourth parts HCl in one thousand of the filtrate.

2. Make a mixture of an aqueous solution of the sesquichloride of iron and a very concentrated solution of carbolic acid. The quantities are best determined by experiment. An amethystine-colored fluid is produced, which becomes a bright yellow when added to the filtrate, if lactic acid be present. This test-fluid must always be freshly prepared. The reaction is delicate for one-half in one thousand.

We should not fail, too, to test the peptic strength by allowing the filtrate in a test-tube to act for a certain time upon a portion of boiled egg-albumen. This should be done at a slightly-elevated temperature, to obtain which the heat near the kitchen-range will answer if no thermostat be available.

J. P. Crozer Griffith, M.D.

* See also article on the Gastric Juice in Acute Phosphorus Poisoning and in Pyrexia, by the same observers, *Zeitschrift für Phys. Chimie*, Bd. x. H. 6; also this journal, page 187, *ante*.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE hope that some of the Erasmus Wilson bequest may be used for founding surgical research laboratories has been cherished by many of the younger generation; but few perhaps were prepared to see so unanimous an expression of opinion from old and young as is contained in a memorial addressed to the Council of the Royal College of Surgeons and signed by all the teachers of surgery in London not on the Council, with, it is said, two exceptions. The memorial points out that laboratories are sorely needed for the study not only of morbid anatomy, but also of experimental pathology, including bacteriology and experimental operative surgery. The anti-vivisectionists, perceiving an opportunity, are taking steps to

work upon the fears of the Council and to raise a popular agitation against the proposal. For the last few years, however, their efforts to put increased obstructions in the way of scientific progress have not been very successful; most reasonable laymen are satisfied that the practice of vivisection is under sufficiently severe restrictions already. It is otherwise, however, with a certain noisy knot of lay-women.

The British Medical Association meets this year in Dublin. The President of the meeting will be Dr. John T. Banks, Regius Professor of Physics in the University of Dublin. An address in medicine will be delivered by Professor Gairdner, of Glasgow; in surgery by Professor Edward Hamilton, of Dublin; and in public medicine by the senior Fellow of Trinity College, Dublin, the Rev. Samuel Haughton, physicist, physician, anatomist, mathematician, divine, and politician,—the very embodiment of the ideal cultivated Irishman and of Coleman's *five* single gentlemen rolled into one,—mentally, that is to say. The meeting begins on August 2, and ends on August 5, thus leaving a clear month before the date fixed by the International Medical Congress at Washington. It will be possible to visit Killarney, Donegal, and other places of interest in Ireland, and then to catch steamers to America at Queenstown or Lough Foyle. The Local Honorary Secretary of the Dublin meeting is Dr. George F. Duffey, of 30 Fitzwilliam Place, Dublin.

There seems to be no doubt that laparotomy is being performed in England much more frequently than was the case even a year ago. It has been resorted to in a considerable number of cases of acute peritonitis, and mention is made of cases of abdominal injury in which it has been used. For instance, Mr. Croft recently operated on a man in St. Thomas's Hospital who was admitted for abdominal injury, with blood in the peritoneum. The hemorrhage was found to proceed from a ruptured spleen; the organ was excised, but the man succumbed. It seems, however, safe to prophesy that this operation will some day be successful. Many animals have survived excision of the spleen, and a black-and-tan terrier upon which Professor Gamgee had performed the operation a good many years ago used to be a familiar visitor at the Jodrell Laboratory at University College, looking the picture of sleek health.

In another case of abdominal injury with symptoms of acute peritonitis in a man, Mr. Croft opened the peritoneal cavity and found that the small intestine had been ruptured. The peritoneum was thoroughly washed out, the two ends of the severed intestine secured in the abdominal wound, and the man has since been doing well. It is also stated that Mr. Walsham has treated a case of rupture of the bladder by laparotomy, sewing up the wound in the bladder and washing out the peritoneum. The man, it is reported, was convalescent in a few days.

Dr. Mitchell Banks read a paper recently at the Harveian Society of London in which he recommended that in operating for mammary cancer the surgeon should excise the whole mamma, with the overlying skin and subjacent parts, and should open up the axilla and tear out all lymphatic glands, whether enlarged glands could be felt before operation or not. Statistics given by Mr. Banks showed a higher mortality, but Mr. Harrison Cripps thought that this need not be the case if there were no "septic surroundings." Mr. Butlin severely criticised Dr. Banks's proposition, and quoted statistics which really seemed to prove too much,—namely, that recurrence occurred earlier after the more extensive operations. He, however, himself suggested the explanation, which doubtless is that the cases where enlarged glands cannot be felt in the axilla, and in which therefore most operators would not open the axilla, are those which are least malignant or in the earlier stage.

Professor Virchow, during a short visit to this country, was shown a number of cases of spontaneous myxœdema in man by Dr. W. N. Ord, and the "operative myxœdema" which has been noticed in monkeys after excision of the thyroid gland by Mr. Victor Horsley. From a paper which he has since published, it would seem that the great pathologist has been led by what he saw in this country to modify materially the views he expressed at the Copenhagen Congress. He is a convert to the doctrine that myxœdema and the "cachexia strumipriva" of Kocher are one and the same disease, in some way inextricably connected, in the one case with atrophy or destruction and in the other with ablation of the thyroid gland. The Clinical Society here appointed a committee two years ago to inquire into the nature of myxœdema, and so far as regards the general etiology, symptoms, and morbid anatomy, the report is almost ready. A circular has been sent to every surgeon in Europe known to have performed thyroidectomy, asking whether symptoms of myxœdema (cachexia strumipriva, *myxœdème opératoire*) have been observed to follow the operation. None of these circulars have been sent to America, because it is not known to the committee that the operation has ever been performed there; but if any of your readers have had cases, I am asked to say that Dr. Felix Semon (39 Wimpole Street, London) would be glad to have particulars of the results, and, not least, if in any of the cases thyroidectomy had been performed without resulting myxœdema.

The Clinical Society at its last meeting appointed yet another committee, consisting of Messrs. Christopher Heath, Howard Marsh, Haward, Rivington, and R. W. Parker, to re-

port on the treatment of scoliosis. The question was raised by a paper read by Mr. Keetley, in which he contended that a test case treated by Mr. Bernard Roth, who advocates a course of gymnastics as the best line of treatment, had not been improved by the method, but that, on the contrary, the curves had increased and the patient had lost in height, though she had improved in spirits and muscular strength. Mr. Roth responded with some warmth, protesting that unless his reply was also published it would be unfair to publish Mr. Keetley's paper in the Transactions. Whereupon the committee above mentioned was appointed.

Several cases have recently been reported in which chronic obstruction of the bowels has been produced by gallstones. There can be little doubt that calculi sufficiently large to produce this result must find their way into the duodenum or some other part of the intestine through a direct fistulous communication between the gall-bladder and the gut. Dr. Pye-Smith mentioned two cases at the Pathological Society's last meeting in which there had been no history of any attacks of abdominal pain or biliary colic, the first symptoms being those of gradual intestinal obstruction. In other cases the symptoms, however, are more acute, and I have heard of one, not yet published, in which laparotomy was performed, and the calculus, which was tightly grasped by an inflamed section of small intestine, was removed through an incision in the gut. The patient, unfortunately, did not recover.

During a short discussion on the treatment of syphilis at the Medical Society recently, Dr. Lauder Brunton discussed the germicide theory of the action of antisyphilitic remedies. Mercurial salts are germicides, and iodine is a germicide; but iodide of potassium, the drug which is so universally given in the later stages of syphilis, is not germicidal. His conclusion was that while it was probable—or perhaps it would be more correct to say not improbable—that mercury acted on the disease-germ, iodide of potassium acted on the diseased tissues. The iodide is a very diffusible salt, and probably its chief action is to stimulate the nutrition of the tissues, and especially of the cell-elements. It is a favorite doctrine with those who look at therapeutics solely from the chemical side that mercury and iodide of potassium ought not to be given together, because the latter hastens the elimination of the former. The theory, however, appears to assume that it is advantageous to store up mercury, to let it accumulate in the tissues; whereas the true aim is to stimulate tissue-growth by the iodide, while at the same time the injurious influence of the syphilitic poison is held in abeyance by the mercury, the hope being that the new tissue-elements produced under these conditions will be healthier than those they replace. Mr. Milner, who started the discussion mentioned above, recommended the green iodide of mercury, Donovan's solution, and iodide of sodium in the treatment of syphilis in hard livers who drink to excess, while using inunction in more abstemious persons, and in dark-complexioned people with a tendency to the tubercular form of syphilide.

Professor Victor Horsley has given a lecture at the Royal Institution, on "The Brain-Surgery of the Stone Age." It is a novel subject in this country, though the Broca Museum of Anthropology in Paris contains ten almost perfect crania and fragments of sixty others illustrating the fact that the men of the polished stone age used to trephine with considerable frequency. Clearly many of the patients survived the operation, for the majority of the crania showed pathological changes only to be accounted for on that supposition. As nearly all the trephine-holes were in the motor areas, it seems probable that prehistoric man only trephined for traumatic epilepsy: that is to say, when a fracture of the skull led to convulsions, he trephined at the seat of fracture and removed a circle from the fractured bone. The fragment thus removed appears to have been regarded with superstitious reverence, and was worn as an amulet.

By a singular piece of good fortune, Mr. Henry Morris has been able to record the sequel of a case which he published in 1879 as an example of recovery from rupture of the bladder. The man died last August, from peritonitis due to a fresh rupture of the bladder. The fundus of the bladder was attached to the rectum by a band hollow at its vesical end; the second rupture had occurred at this hollow part. A committee consisting of Messrs. Savory and Bryant, Drs. Goodhart and Kingston Fowler, reported that the bladder presented all the features which might be expected at a remote period after rupture. The treatment under which the recovery took place consisted of hot fomentations to the belly, half a grain of opium by the mouth every six hours, and the retention of a gum-elastic catheter just within the neck of the bladder. Mr. Morris thinks that the case is strong evidence in favor of treating rupture of the bladder by continuous catheterization.

Mr. W. H. Power, one of the medical inspectors for the Local Government Board, seems to have proved conclusively, so far as statistics can prove anything, that, in some way not easy to understand, a smallpox hospital in a town causes a greater incidence of smallpox in its immediate neighborhood. He has taken the statistics for a great many hospitals, and has written a number of reports to his Board on the subject. One of the most recent relates to the smallpox hospital at West Ham. He found that within an area contained by a circle described three-quarters of a mile from the hospital the death-rate

from smallpox was much higher than in other parts of the same districts; it was never less than twice, and had risen to ten times, the general rate. Mr. Power has also given statistics which tend to show that the number of cases shows a progressive decrease on passing from the immediate neighborhood of the hospital in every direction. No explanation has yet been afforded of the influence of the hospitals. It seems to be independent of the winds, and the explanation at first suggested —that it was due to clandestine or accidental communication between the hospital inmates and attendants and the neighbors—is now found to be inadequate.

England, but especially London, has been recently visited by an epidemic of severe diarrhœa, characterized by severe cramps, chiefly in the lower extremities, watery stools, and great prostration. The cases have been scattered, and no common factor has yet been discovered to account for the wide prevalence of the malady at this time of the year. Cholera has appeared in Sicily recently; but had it been a little nearer, and had the year been a little more advanced when this epidemic of diarrhœa arose, there would undoubtedly have been a scare.

There would seem to be no end to the misfortunes of Guy's Hospital. During the last five years half the physicians and assistant-physicians have died. First Hilton Fagge, then Mahomed, and then Walter Moxon; and now, last week, Dr. R. E. Carrington has succumbed to pleuro-pneumonia after only three days' illness. It is not yet many months since he completed his task of assisting Dr. Pye-Smith to bring out the "System of Medicine" which Dr. Hilton Fagge left unfinished. Dr. Carrington was a man of modest and retiring manners, and was greatly admired and beloved by the students of Guy's Hospital. Dr. Moxon used to contribute short essays to the *Guy's Gazette* ten or twelve years ago. These essays, which are always ingenious and often brilliant, were signed by the curious *nom de guerre* Pilocereus Senilis. A small volume has just been issued by Mrs. Moxon, bearing this name as title. It contains the essays from the *Guy's Gazette* and three addresses. One of the shorter pieces, "Dare quam accipere," discusses in a most humorous vein whether this motto of Guy's Hospital was not meant to apply to the stock mixtures dispensed to out-patients.

Two new special hospitals have just been started in London, where we already have too many. Some time ago, in consequence of what was thought to be the high-handed conduct of the managing committee backed by Dr. Morell Mackenzie, who is the consulting physician, the whole of the staff, with one exception, of the Throat Hospital in Golden Square resigned. A new staff was quickly got together, and the hospital has gone on as before. The old staff, however, with two new recruits, Dr. Coleman Jewell and Dr. Edward Law, who have held the post of resident medical officer at the hospital in Golden Square, have started a new hospital in Great Portland Street; Dr. McNeill Whistler and Dr. Woakes are the senior members of the staff. We have thus three special throat-hospitals in London, besides eight or nine special departments attached to general hospitals. Moreover, two journals of laryngology and rhinology are edited in this country: the one the German *Centralblatt*, by Dr. Felix Semon, the other an English journal, on much the same basis, by Drs. Morell Mackenzie and Norris Wolfenden. Why laryngology is so popular is not quite clear; perhaps the reason is that given once to me by a somewhat fastidious physician, who added it to several other accomplishments he possessed: "It is a nice clean specialty, and does not require any very elaborate instruments." My fastidious friend would have revolted if invited to take up dermatology; but this specialty is almost equally popular, and perhaps more lucrative. The second special hospital is a skin-hospital, and it has been promoted by Mr. J. Startin, who not long ago had some difference of opinion with his colleagues at St. John's Hospital for Diseases of the Skin in Leicester Square. Mr. Startin, who has been joined by Mr. Pocock, intends to place his services at the disposal of the "sick and suffering poor" at a house close to Leicester Square.

DAWSON WILLIAMS.

BOSTON.

THE Massachusetts Legislature of the present year, following the example set by one of its immediate predecessors in regard to the pharmaceutical profession, has passed a bill providing for registration of dental practitioners. All persons now actually engaged in such practice are allowed to register without any examination into their qualifications; but all henceforward desiring to commence the practice of dentistry, whether graduates of a dental college or not, are required to pass an examination before a board of five persons appointed for that purpose by the Governor; and such persons, if approved, and no others except graduates in medicine, are allowed to practise as dentists within the State. In the debate on this bill, one of the speakers produced a letter of protest against the measure from a farmer who had, without any preliminary study whatever, taken up dentistry, who said he had made more in three months than he ever did before, and who defied the legislators to stop him. The opinion expressed by another speaker that "the best dentists were bad enough" seemed to meet with general acquiescence, for the bill passed without serious opposition, though the

parent profession, general medicine, has never received like supervision in the State, every attempt to require an examination and registration of medical practitioners having been defeated under the cry of "Monopoly!" Meantime, Dr. York, of the somewhat notorious "Druidic" University of Maine, having been driven out of that State for fraudulent conduct of a medical school there, is said to be about to make his home in Massachusetts, where every one is at perfect liberty to call himself "Doctor," and to practise upon the community, who chooses to do so.

On the morning of March 14, a local passenger train on a branch of the Boston and Providence Railroad fell through a bridge at a point in the suburbs but within the limits of the city of Boston. Five cars were precipitated into the street below the railroad, a distance of thirty feet or more, and great loss of life resulted. Some twenty-six were killed outright, and eighty or one hundred others injured, many very seriously. The Railroad Commissioners of the State are now conducting an investigation into the cause of the disaster, and, though the hearings are not quite completed, it is pretty evident that the accident was due to causes which might have been prevented. The medical features of the catastrophe have been quite interesting. The earlier scenes at the wreck recalled some of the medical service in the late war. Improvised ambulances were on hand with mattresses, bandages, etc., contributed by persons living in the vicinity. Some of the bodies of the dead were greatly mangled, two having the heads severed from the body, and a third having the skull cleft down its middle and one side of the face torn off. Still others were disembowelled and had the legs torn off. One peculiarity about the bodies of the dead and those whose wounds required surgical attention was the blackness of the skin, suggesting almost the action of fire. Fortunately, however, there was no fire, and the color was shown to have been due to the comminution, the actual pulverization, of portions of the car from the violence of the crush. In one person having a scalp-wound, for instance, the attempt to cleanse the hair from this fine dirt before dressing the wound blackened several successive basins of water as if with soot. Yet that the dirt was not altogether soot from the car was shown by the detection in the washings of many little particles of splintered wood. The railroad company have assumed the medical expenses of all the injured, and will doubtless have to pay a much larger sum in damages for the dead and the living.

Dr. John S. Billings, of Washington, has been appointed for the current year Lecturer on the History of Medicine in Harvard University. It is understood that his course is to be given this spring.

Considerable attention has been attracted by statements regarding a recent outbreak of smallpox among the employees of a paper-mill at Holyoke, Massachusetts. The investigation made by Dr. Abbott, of the State Board of Health,—in company with whom the writer had the pleasure of inspecting the cases,—showed that one man who had worked at a duster in which both foreign and domestic rags were treated, and who had never been vaccinated, died of the disease. Two girls who worked in a room in which foreign rags only were sorted were taken simultaneously at about the same time as the man mentioned. These girls boarded and slept together. Neither had typical vaccinal scars. They were obliged, in going to and from their work, to pass through a room where domestic rags were sorted. In the room where they worked thirty or thirty-five women were employed, but no others contracted the disease. Statements were freely published—one of which I noticed in a valuable medical journal of your city—that the health officer had "traced the disease to foreign rags" brought into New York and bearing a certificate of sulphur-disinfection abroad. This is precisely what was not reported by Dr. Abbott, who found it impossible to conclude with any degree of certainty what sort of rags had carried the infection. As a matter of fact, it is generally impossible to differentiate between foreign and domestic rags as carriers of this infection, for nearly all mills make use of both kinds of rags. Indeed, it seems to the writer that, from what we know of the tenacity of life of the variolous poison, there is little reason for trying to make a distinction in this regard between foreign and domestic rags. If the one can bring smallpox, so can probably the other. Of course, in diseases like cholera, where the contagium is shorter lived and has rarely been carried by rags at all, it is fair to require proof, which never as yet, as I believe, has been offered, that foreign baled rags can transmit the disease before admitting that there is a danger of cholera-infection by this commodity.

An interesting dinner was given the other day in honor of Mr. Theodore Metcalf, one of the leading pharmacists of this city, in celebration of the fiftieth anniversary of his starting in the drug business here. Speeches were made by a number of more or less distinguished men, among them William Warren, the veteran comedian, and Dr. Oliver Wendell Holmes. The latter began his professional career in the same building where Mr. Metcalf kept his shop; and, as the speaker said, he used to write the prescriptions, Mr. Metcalf filled them, and the sexton, who lived opposite, was ready to contribute his part towards finishing up the affair. Many pleasant reminiscences were given of the pharmacists of half a century ago, of whom only one or two others still survive.

C. F. W.

Boston, April 5, 1887.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA NEUROLOGICAL SOCIETY.

A REGULAR meeting of the Society was held at the Hall of the College of Physicians, February 28, 1887, Vice-President Dr. CHARLES K. MILLS in the chair.

I. N. KERLIN, M.D., read the following paper on

MORAL IMBECILITY.

When reporting to your Secretary the title of a paper to be read before you to-night, I had contemplated prefacing four illustrative cases of moral imbecility with a short discussion on the mooted question of moral insanity, but later consideration led me to reserve this for another occasion, as the illustrative cases are somewhat lengthily detailed and will consume all the time appropriated.

For this evening I present for your consideration short histories of four children,—the first, presented by my friend Dr. Carson, of Syracuse, New York, illustrative of the incipient prostitute whose mental incapacity should be her protection; the second case, the incipient burglar; third, an hereditary religious hypocrite and egotist, who if not permanently sequestered will fill a dramatic if not awful rôle in crime; fourth, a confirmed juvenile tramp and incipient confidence man. All four, in the judgment of your reporter, are cases which may be classed under the following descriptive paragraph, which appears in the Thirty-Second Annual Report of our Training-School for Feeble-Minded Children, and which was quoted by Dr. Hack Tuke in a meeting of the Medico-Chirurgical Association of Great Britain and Ireland, receiving from that learned body an equal share of favorable and unfavorable criticism. The paragraph referred to is as follows:

"It is a mournful conclusion, that has been reached after twenty-five years of experience, that in every institution of this kind, and probably to a far greater extent in our refuges and charity-schools, there exists a class of children to whom the offices of a school-room should not be applied: these are the so-called moral idiots, or juvenile insane, who are often precocious in their ability to receive instruction, but whose moral infirmity is radical and incurable. The early detection of these cases is not difficult; they should be subjects for life-long detention; their existence can be made happy and useful, and they will train into comparative docility and harmlessness, if kept under a uniform, temperate, and positive restriction. The school-room fosters the ill we would cure: in teaching them to write we give them an illimitable power of mischief; in educating them at all, except to physical work, we are adding to their armament of deception and misdemeanor."

And now, as illustrative of this particular group, I cite first the case presented by Dr. Carson [an incorrigible girl sexually insane.]*

Tom McK., aged 12, admitted November 9, 1877. When first brought to our knowledge he was described as an incorrigible boy, who had been passed from one county-home to another, through a juvenile reformatory, and at last, to prevent his own self-destruction, because of his propensity to climb the rods and water-spouts of the refuge and to ramble dangerously over its roofings, he was locked in a secure room. Excepting his under stature, nervous manner, and glittering eyes, there was nothing in the aspect of the pale-faced boy to suggest any unlikeness to normal boyhood. Indeed, his aptness in language, both usual and profane, suggested precocity. He was but little more backward in his studies than would be any neglected boy; full of mischief and deceit, he had the usual indifference of a bad boy to punishment morbidly increased. There seemed to be a moral hebetude and a causeless wilfulness that had taken the place of the fretfulness, kickings, and bitings of his earlier childhood.

The boy promptly responded to school instruction; is described in the early weeks as a "nice little boy, who I think will learn." After two years I find the following record. "Is fourteen years old; reads very well in the second part of the 'Child's Book of Nature;' spells long sentences in the *Independent;* can learn a fair lesson in geography; knows all the counties of Pennsylvania; is in fractions, understanding some of them quite well; writes in No. 3 copy-book; has excellent use of his hands; can make a mattress alone, and cane-seated a chair without help; plays the alto horn in the band; writes a good letter; is kind if his sympathies are aroused, but is cruel if left unguided."

Favorable reports continue to be made of his intellectual progress during the next two years. In 1882 he is spoken of by an indulgent teacher as "a healthy, strong, and fine-looking boy, manly and frank;" but notwithstanding these favorable reports, of which many appear on the pages of our school progress, through the seven years of his pupilage there were seizures of irritability and excitement occurring periodically, and of increasing intensity the longer he remained with us.

The inventions of his cruel nature, directed against child and brute alike, cannot be detailed. The vindictiveness with which he followed up any one against whom might be developed a temporary suspicion was satanic. The secrecy with which he could lay plots to steal from his companions, and the adroitness

* This case was published in full in the proceedings of the Syracuse meeting.

with which he covered up his tracks, were those of an expert.

This side of his character may be known to but few of our resident family, the majority being impressed with this bright-faced boy very much as was the indulgent teacher above quoted.

The period of his discharge from the institution had arrived, and Tom was restless to return to his people, and they equally determined to have him do so. Six months after his discharge I was importuned to testify in court for his release from imprisonment. In the brief period following his dismissal from the institution he had already been found guilty of two or more petty burglaries. Benevolent friends had discovered him in prison, freely confessing his offences, and weepingly imploring to be sent back again to the institution. The crimes seemed to be unaccompanied with sufficient motive to make them heinous.

After a thorough and painful review of his whole life with us and the discomforts that must follow his readmission, I was compelled to advise that the course of the law be not interfered with, but urging that an intermediary, such as that at Elmira, should enter the scheme of our penal treatment.

This incorrigible moral imbecile was the son of a man of most abandoned character, who in his paroxysms of drunkenness was a savage. I recently discovered his mother in the insane department of a county-house, one of the saddest of dements. The boy's conception, birth, and childhood—his whole history—had been laid in physical disorder, fright, and dissoluteness.

G. L., admitted July 12, 1883: a sweet-faced, intelligent, lovable boy, whose gentle manners instinctively won confidence, and made his new-found friends at the institution believe that the boy had been improperly consigned to our care by a mother too eager to relieve herself of her proper relations to her own child.

The mother's description of this lad (she withheld some points, we afterwards discovered) is so good that I quote here at length: "He is fourteen years old; large, healthy, well formed; kind-hearted, quick-tempered, very dull of comprehension; seems to lack the power of either continued study or labor; full of good resolutions and promises that are seldom kept; determined to see the inside of everything at any cost; fond of working with any kind of tool; fond of little children, and a lover of horses and dogs. A hearty hater of books: can scarcely read, though he has had at least ten months' term at school. Will listen to verbal instruction and ask questions from morning until night. The average child of eight years has better reasoning powers than he." "He is not malicious, but is destructive; is reckless of danger, not regarding consequences, and I am at a loss to decide whether he cannot or will not weigh them. He will both lie and steal, but neither are common practices. When I have found he was guilty of either, I have always found it was done on the impulse of the moment through sudden temptation. *He will not confess.*"

This interesting boy took an upper place at once in our community. Located in one of the best rooms, associated with the best group of boys, his face shining with sweetness, Guy went along swimmingly for nearly three months. Little meannesses were complained of by his associates, and we found that he had few friends among the boys. Notwithstanding his loveliness to us, he was an object of aversion to them. Instances of cruelty to the feebler children, and petty pilferings from his associates' boxes, opened by ingeniously-twisted hair-pins, made numerous counts against him, of which he was generally forgiven because of the lack of clearness in the testimony and his adroit evasions. He devoutly knelt at his bedside every night, was thoroughly up in Romans, Timothy, and the Beatitudes, and stood well in our Bible-class. His troubles with the boys found commiseration from our tender-hearted ladies, so that while in disfavor in the dormitories he was in high favor with the court.

On a quiet Sunday afternoon, when the children were scattered in their various clubs in distant parts of the grounds, excepting that to which G. belonged, our carpenter-shop was discovered in flames. The locked door had been opened by prying, a window was noticed to be partially elevated, and marks of violence upon a tool-chest in which matches were usually kept by the carpenter. Immediately after the fire an attempt was made to sift the testimony of eight or ten feeble-minded boys, the substance of which pointed to one of two or three boys as possibly involved in the incendiarism.

This preliminary examination resulted in placing G. in confinement, with the hope of eliciting from him such confession as might corroborate the circumstantial evidence that pointed to him.

Through three long weeks this sweet-faced, praying, pleading boy held out against all kindness, all persuasion, and we were well-nigh giving up the task, when finally the following letter addressed to his mother passed through our office:

"DEAR MOTHER,—I cannot be satisfied until I tell you what I have done. I am very sorry to tell you of it, but it is better for me to tell it myself. On last Sunday I thought I would like to see how the fire-machines were used, and I got into the carpenter-shop, took a match out of the cupboard, and set the shavings on fire. When the blaze got about a foot high, I hallooed 'fire' before it got too big. I cannot rest until I tell you. Every one treats me too kind to do anything like that in spite to any one. I cannot tell you

how I feel. My heart is like a lump of lead. I am so afraid that you will think I am never going to become a good man. I have asked the Lord to forgive me, and I know he will if I obey him. I have learned the fifth chapter of Romans, and I am going to be a good boy after this," etc.

I found by interrogating the police authorities of his town that he had, prior to his admission to our institution, been shut up for petty larceny, and a late admission came from his mother that he had fired her own house. With these facts before me, I placed him in the House of Refuge, where, two weeks afterwards, it was sincerely believed that the boy had been wrongfully committed, so well had he played his *rôle* of sweetness, and that the confession had been a forced one under the distress of confinement.

The etiological history of Guy is somewhat interesting. The paternal grandmother is described as a fanatic on the subject of religion; the eldest son of this grandmother thinks that he lives without sin, and his brother (this boy's father) is of the same belief, and has been at all times deranged on the subject of religion. The mother's testimony is as follows: "Practically my son might as well have no father, whose only faculties are building engines and studying the Bible. He passes through the world neither seeing, hearing, nor feeling anything that is not directly connected with either of these his two hobbies. Notwithstanding his devotion to Scripture, he is subject to attacks of brutal anger."

Frank L. is thus described on his admission to our school, March 24, 1880, by the teacher in charge: "He is 12 years old, has attended school in winter for the last two or three years, and in summer worked on a farm. Notwithstanding his limited advantages, he can read in the American Third Reader and write an intelligible letter; adds eights, sixes, and fives; can write short sentences; knows the primary and secondary colors; can tell time; draws a little. In form, knows the square, oblong, and circle. Smiles a great deal; is a little deaf. In April he is described as showing much interest in a few simple lessons in botany. Writes short letters, very well expressed. He is a good boy in school."

Scarcely a symptom of intellectual or moral infirmity had been discerned in this interesting boy, when, without known reason, he eloped, which threw our family into great distress, relieved only when writing the father upon the subject, who replied, "I can take no steps towards his recovery: I have already spent hundreds of dollars in bringing him back from just such escapades."

The boy had been committed to us by Judge Ross, of an adjoining county, who found this blue-eyed, sweet-faced lad in the cell of their county prison, beating his head violently against the wall and asserting that he "meant to make himself like his mother, who was already crazy." The sympathetic judge recognized the imbecility of the boy, and refused to pass judgment upon the trivial offence for which he had been arrested.

A few months after his elopement, a newspaper sent to us from Escanaba, Michigan, related the story of a boy who had appeared in that town and who had excited a very great interest.

The boy had been found standing on the shore of the lake, weeping bitterly and explaining to citizens that his father had just thrown himself overboard and drowned. Boat-hooks and fishing-nets were brought into requisition, and for many hours there was an earnest endeavor to recover the missing father, when a more reflecting citizen, upon close interrogation of the boy, discovered that the story was a hoax. The editor of the morning paper took a friendly interest in the boy, and carried him to his office, and explained the case the next morning at great length in a sensational column to be one of insanity from exposure and hardship. The evening paper of a political rival came out with a column protesting that the little fellow was an incorrigible waif from one of the Eastern refuges, and had hoaxed its half-witted contemporary by playing off the insanity dodge.

It proved to be our Frank, for among conflicting statements he had said that he had an uncle near Media, Pennsylvania, which resulted in the return of the boy to our institution, but for a brief season only, for, after six or eight months of diligent attention in school and workshops, and seemingly contented and happy, he suddenly, without known cause, left for parts unknown. After many months he was reported by the police authorities of Chicago, and through the courtesy of these public-spirited gentlemen and of our own police force in Philadelphia, Frank was returned, to come into the office with the same blue-eyed confidence, to settle again at the harness, and with the keenest adaptation to resume his alto horn in the band. Again, without any reason for it that could be ascertained, suddenly and as certainly as before he again eloped, and is at present somewhere within fifty miles of the institution, occasionally appearing to acquaintances quite near us, but mysteriously fading away.

(To be continued.)

NEW YORK PATHOLOGICAL SOCIETY.

STATED meeting, March 9, 1887, the President, T. MITCHELL PRUDDEN, M.D., in the chair.

NUMEROUS SMALL CALCULI IN THE SPLEEN.

Dr. W. H. PORTER presented a number of small calculi, varying in size from that of a

filbert down, which had been removed from the spleen of a man at autopsy. He had counted about one hundred. There were no infarctions and no cardiac lesions. The calculi were scattered throughout the substance of the spleen.

GALLSTONES.

Dr. PORTER also presented some gallstones in a case which suggested the propriety of removal of the gall-bladder, an operation which had been performed nine times, with a bad result in only one.

EFFECT OF ANTIPYRETIC DRUGS ON THE LIVER AND KIDNEYS.

Dr. PORTER also presented the liver and kidneys of a patient who had had a moderate attack of rheumatism. Later, antipyrine was given at rather short intervals for the purpose of reducing the temperature, but it seemed to have had little influence. When the patient entered the hospital the temperature was 105° F., and after antipyrine was given it rose to 107°. Antipyrine was omitted and salicylic acid was given, when the temperature fell to 103°. Antipyrine again being given, the temperature again rose. Antifebrine was also given, but the temperature rose higher and higher, and the patient died with a temperature of 109° or 110° F. In looking over the literature he had found that some men who had experimented with such antipyretic drugs as antipyrine, antifebrine, thalline, etc., had observed the appearance of casts and albumen in the urine, and at the autopsy extensive metamorphosis of the liver and kidneys; but they claimed that this was of no practical importance. Some had also observed that in patients treated with antipyretic drugs, especially typhoid-fever patients, the duration of the disease was longer,—forty-two days instead of about thirty-two days, as was observed when baths and antipyretic measures other than these drugs were resorted to. One writer had said that by the use of antipyrine he had succeeded in getting the highest death-rate, but he was inclined to think that the patients were more comfortable while they lived. In studying the condition of the kidneys and liver in cases in which these antipyretic drugs had been employed, Dr. Porter had noticed in the history that the temperature had been higher than in cases in which such drugs were not employed, and he found a much greater degree of granular and fatty metamorphosis in the liver and kidneys. He had therefore come to believe that antifebrine, antipyrine, and thalline were not as safe drugs as we had been taught. The effect of the increased temperature occurring at some period of the disease after their use was to cause this marked metamorphosis of the liver and kidneys,—primarily of the liver, secondarily of the kidneys.

SYPHILITIC SALPINGITIS.

Dr. H. J. BOLDT presented the tubes and ovaries of a woman illustrating what he believed to be syphilitic salpingitis, as there was no history of gonorrhœa or other cause of the trouble. She had a chancre, and at the time of the operation had well-marked general secondary lesions of syphilis. The intense pelvic pain disappeared after the operation.

PROLAPSED CYSTIC OVARY.

Dr. BOLDT also presented the tubes and ovaries removed in another case for cystic degeneration of the ovaries in a patient who suffered severely from a number of symptoms,—headache, dyspepsia, pain in the back, hypogastric and inguinal pains, dysmenorrhœa, and troublesome cardiac palpitation. It was nearly three months since the operation, and all the symptoms had disappeared except the palpitation, which was somewhat ameliorated. Other treatment had been resorted to before the operation, but without avail.

CARCINOMA OF THE BLADDER.

Dr. FRANK FERGUSON presented the bladder of a man, 61 years of age, who had never had gonorrhœa nor stone in the bladder. He had lost flesh. Micturition was painful and frequent. The steel sound was grasped in the prostatic portion of the urethra. The prostate gland was enlarged. The urine was alkaline, 1014; contained a trace of albumen, and mucus and pus.

The autopsy revealed a tumor at the base of the bladder, involving the entrance of both ureters. The tumor appeared slightly raised above the mucous membrane; was circular in outline, one and one-quarter inches in diameter. The ureters were greatly dilated, and their entrance into the bladder could scarcely be traced through the tumor. The pelvis of the kidneys was dilated. There was chronic diffuse nephritis. The rectum and seminal vesicles were invaded by the carcinomatous growth.

INJURY OF THE BRAIN—RECOVERY.

Dr. JOHN A. WYETH presented the drawing of a piece of fence-rail, measuring in its different diameters two and three-fourths inches, three-fourths of an inch, and one-half an inch, which about four years ago was removed by Dr. Cross, of Alabama, from the brain of a negro, having penetrated the supraorbital plate. The injury occurred from a fall from a moving train. The patient was unconscious after the accident. The eyeball was thrust out upon the cheek. About one teaspoonful of brain-substance was lost. The eye was removed, the patient recovered, and showed no mental symptoms.

Dr. W. M. CARPENTER referred to two similar cases seen by him in the country in boys, both of whom recovered without mental

symptoms remaining, in one the eye being entirely lost, in the other the ball being saved, but sight lost. In both cases the injury was from the kick of a horse.

RECURRING GROWTH BELOW THE EAR.

Dr. DUDLEY presented a small specimen removed from a woman, 28 years of age, who gave the history that about three years ago a physician removed a small growth from below the ear, which was said to be a simple encapsulated fibroid. A year later another physician removed a growth from the same region, consisting of the old cicatricial tissue and some fatty tissue. About one year later Dr. Dudley was called upon to remove the present growth, which seemed to be a simple cyst with its capsule spread throughout the surrounding tissue, closely adherent to the large vessels. It was referred for examination.

LARGE FIBROID OF THE UTERUS—HYSTERECTOMY.

Dr. DUDLEY also presented a solid fibroid tumor of the uterus weighing nine pounds, to which were attached the uterus and its appendages. The patient had complained only of a dragging weight in the back and swelling of the right leg, but an abdominal tumor was not suspected until ten days before its removal, when Dr. Dudley first examined the patient. The operation was performed yesterday. The temperature was below 100° F.

MISPLACED KIDNEY.

Dr. I. VAN GIESON presented the right kidney removed at autopsy from the body of a man, aged 30. It lay in the hollow of the sacrum, its superior apex being on the level of the pelvic brim. Its internal border followed the median line of the body.

GREATLY-ATROPHIED KIDNEY.

Dr. VAN GIESON also presented a greatly-atrophied kidney, the capsule and cortex measuring from two to three millimetres, the cortex consisting largely of glomeruli.

GENERAL TUBERCULOSIS IN AN INFANT.

Dr. W. P. NORTHRUP presented specimens from the body of a mulatto child, aged 2 years, which had been returned to the asylum by the nurse two days before death. It had suffered from repeated convulsions. No diarrhœa; no vomiting. The autopsy showed tuberculosis of the brain, lungs, mesenteric glands, etc., but the spleen escaped. In the cerebellar structure was a large tubercular tumor. The mesenteric glands were very much enlarged, as were also the bronchial. Peyer's patches were considerably ulcerated.

A NEW STAIN FOR MICRO-PHOTOGRAPH SPECIMENS.

Dr. ROOSEVELT presented microscopic specimens illustrating the value of a new stain for micro-photograph work. It was, as far as he was informed, new. It could be made of about one ounce of water to which were added thirty-five drops of a saturated solution of ferrous sulphate. To this add about fifteen or twenty drops of a saturated solution in alcohol of pyrogallic acid. After a while the color becomes a peculiar brownish gray.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held March 17, 1887, the President, A. JACOBI, M.D., in the chair.

BACTERIA IN ICE, AND THEIR RELATIONS TO DISEASE, WITH SPECIAL REFERENCE TO THE ICE-SUPPLY OF NEW YORK CITY: AN EXPERIMENTAL STUDY.

Dr. T. MITCHELL PRUDDEN read the paper, which was based on experimental study by the new method of water-analysis which had to do with its living contaminations: the so-called biological analysis. It was not to be inferred that this method was intended to supersede the chemical. They were in most cases mutually supplementary; but so far as a certain class of diseases which might be transmitted by water, such as typhoid fever and cholera, was concerned, it was safe to say that the biological method was by far the more important. The method was very simple, but it required for its execution considerable patience, care, and experience. The method was briefly described. The following was a summary of his investigations:

If he had accomplished the primary purpose of the paper, he had shown that by the biological analysis of water and of ice we could detect with great certainty the presence of bacteria some species of which could give rise to serious disease, but that, when we had determined the number of bacteria present in water or ice, a careful consideration of other conditions was still imperative in order to determine whether the water or ice was fit for use.

He had shown that the popular impression that water purified itself in freezing was only partly true so far as the bacteria were concerned. The partial purification from bacteria was accomplished not by their expulsion from the water, but by the death of a certain proportion of them; so that, if the bacterial contamination of the water was extreme, or was largely made up of the more hardy species, the ice formed from it, even though quite transparent, might still contain a large number of the living germs.

He had shown that different species of bacteria possessed different degrees of vulnera-

bility to the action of low temperatures. Certain species which were capable of causing serious and even fatal diseases in man—the bacillus of typhoid fever and the common bacteria of suppuration, for example—were capable of resisting a prolonged low temperature with the destruction of a part only of the individuals thus exposed. In the case of the typhoid-fever germs the exposure had lasted seventy-seven days.

He had shown that the resisting capacity of the different species varied with the vitality of the individuals, the degree of temperature, and the time of exposure, and that alternate freezings and thawings sufficed to exterminate completely in a short time all species experimented on, even those which could endure for a long period a sustained low temperature. Data had been gathered which seemed to justify the conclusion that in the freezing of natural waters there might be a purification from bacteria amounting to as much as ninety per cent. We had learned that the effect of freezing on water containing bacteria was comparable to that of filtration, but with this vital difference: that whereas by filtration all forms of bacteria were removed in approximately equal ratio, by freezing, which acted as a sort of selective infiltration, some of the most dangerous forms might be retained while others were destroyed.

He had shown that New York City ice came from a series of naturally excellent lakes and ponds, and from a great tidal river rich in sewage-pollution. He had shown that while the conditions in the upper Hudson did not seem during the ice-forming season to be such as would favor purification from organic matter by oxidation, they did seem to be theoretically—and were shown to be practically—favorable to a considerable degree of spontaneous purification from bacteria by sedimentation; but the limits and extent of this purification were yet to be made out.

Coming to the actual analysis of the ice from both the river and the lakes and ponds, he found a much greater number of bacteria in the snow-ice than in that which was clear or moderately bubbly. He found that the species of bacteria were much more varied and abundant in the river-ice than in that from other sources, while in both there was a considerable proportion of the relatively harmless water-bacteria. He found that while the number of living bacteria varied greatly, not only in different parts of the same block of ice, but also in ice in different parts of the river and from different lakes and ponds, the average number was considerably greater in ice from the river than from lakes and ponds, even when Albany ice, which was worst of all, was excluded from the estimate. He had shown also that the average number of bacteria in ice from all sources taken together was far beyond the general standard which even a moderate degree of purity would allow.

The measures which might be adopted in view of the present condition of affairs were of two kinds: first, such as would come under the supervision of health officers; second, those which belonged in the province of individual consumers.

In the first place, it would seem necessary that the State Board of Health or some other authorized body should be placed in charge of the ice-harvesting fields, and, by a system of inspection not less strict than that which should exist in the case of the ordinary water-supply, determine which, if any, of the sources of ice-supply were so situated as to imperil the health of consumers of ice. In view of what had been seen, this would appear to be comparatively simple in all cases except that of the Hudson River. Here it would be necessary to establish by a most thorough scientific examination the distances from all sources of sewage-pollution at which it might be safely assumed that the water had freed itself from bacterial and other impurities sufficiently to form safe ice. It might in this way be possible to remove any chance of danger by permitting the questionable or bad ice to be sold only for cooling purposes, if such a classification were practicable, and thus not materially interfere with the interests of the ice-companies. A compulsory system of disinfection of excreta in infectious diseases might be instituted.

When we consider the precautions which the individual consumer might adopt, it is evident, from what has been seen, that if he could be certain that his supply came only from the lakes and ponds he would secure for himself a fair degree of immunity from danger. He might avoid ice cut in the vicinity of Albany. Snow-ice should be used only for cooling purposes. A variety of devices might be adopted in the use of ice for the cooling of drinking-water, such as pitchers containing receptacles for the ice, in the cooling of the water in refrigerators, also by making ice artificially from pure water.

REVIEWS AND BOOK NOTICES.

A Text-Book on Surgery, General, Operative, and Mechanical. By John A. Wyeth, M.D., etc. New York, D. Appleton & Co., 1887. 8vo, leather. Pp. 777.

This handsome volume, clearly printed and freely illustrated, is a valuable contribution to the literature of operative surgery. The sections on Amputations, on Ligations of Arteries, and on Hernia have unusually large diagrams of dissections, in which the vessels are colored red and blue to distinguish them more readily. In the chapter on Anæsthesia the preference is given to ether over chlo-

roform, and etherization by the rectum is condemned. Nothing is said about other agents in use for general anæsthesia, such as ethyl bromide, chloral hydrate, or even alcohol. The method of Bonwill by rapid inhalation, and hypnotism for surgical purposes, also deserve consideration. In naming the remedies to be used to resuscitate patients apparently dangerously affected by the anæsthetic, the author omits the use of faradism, nitrite of amyl by inhalation or injection, and ammonia. The contraindications to the use of these anæsthetics, to which Paget and others have directed attention, should also have received consideration, and the preliminary use of atropine to sustain the respiratory function during prolonged operations should be mentioned. The sections upon Regional Surgery are most satisfactory. The last section is devoted to a brief exposition of the clinical and microscopical character of tumors.

A Century of Electricity. By T. C. Mendenhall. Boston and New York, Houghton, Mifflin & Co.; Philadelphia, Porter & Coates. 12mo. Pp. 229.

This book gives a concise history of the development of the galvanic battery, the induction coil, and the main results of the discovery by Oerster of the relationship between electricity and magnetism. One of the best chapters in it is that on "Who Discovered the Electric Telegraph?" and due credit is given to *all* who contributed to the evolution of the instrument, instead of assigning the glory to Morse, as is too often done,—to the detriment of Henry, in particular.

A singular fault in the description of the phonic apparatus is the omission of any reference to Blake, whose transmitter is in general use on all systems.

A condensed description of the development of arc and incandescent lighting and the transmission of energy by electric motors closes the volume. The work is a good one for general readers.

Nervous Diseases and their Diagnosis. A Treatise upon the Phenomena produced by Diseases of the Nervous System, with Especial Reference to the Recognition of their Causes. By H. C. Wood, M.D., LL.D., Member of the Academy of Science. Philadelphia, J. B. Lippincott Company, 1887. Pp. 501. 8vo, cloth. $4.

This timely work upon the semeiology and diagnosis of diseases of the nervous system has its proper field indicated and prepared in the minds of its readers by an introductory section, in which the relation of over-exertion or exhaustion of nerve-cells to organic disorder and physical bankruptcy is insisted upon. Neurasthenia is not, therefore, to be looked upon as a separate disease, but as the result of a strain which is excessive in its relations to the organism which has to bear it. In some it is the expression of premature old age, in the opinion of the author. The various functional and organic Paralyses are discussed in the first section, followed by Motor Excitements in the second. The third chapter is devoted to a consideration of the Reflexes, and the fourth to Disturbances of Equilibration. Trophic Lesions, Sensory Disturbances, Disorders of Memory, of Consciousness, and of Intellection, complete the eleven chapters composing the book, which is replete with information gained from a peculiarly favorable clinical experience and a wide range of reading. The work, however, is not a mere labored compilation, but shows the hand of the skilled diagnostician and experienced physician. It is a compend which should be in the library of every physician.

MISCELLANY.

Jefferson Medical College. — The Sixty-Second Annual Commencement was held April 5, 1887, at noon. Professor J. W. Holland, M.D., delivered the valedictory. There were one hundred and eighty-seven graduates in medicine who had the degree conferred upon them. At the Alumni meeting, on the evening preceding the Commencement-day, Professor Hunter McGuire, M.D., of Richmond, Virginia, delivered the annual oration, and was honored by a reception at the Hotel Bellevue.

The Medico-Chirurgical College held its Sixth Annual Commencement exercises on the 7th instant, Professor P. D. Keyser, M.D., delivering the Valedictory Address to the graduates, who numbered fifteen. The Alumni Oration was delivered by Professor Dudley S. Reynolds, M.D., of Louisville, Kentucky, who was the guest of the Association at a banquet of two hundred covers at the Colonnade Hotel.

State Medical Society of Pennsylvania.—The attention of those members who intend reading papers at the Thirty-Eighth Annual Meeting, to be held at Bedford Springs in June, is directed to the fact that in order to secure a place on the programme it will be necessary to send the titles of their communications as early as possible to the Secretary. Railroad facilities will also be furnished upon application.

"The American System of Gynæcology and Obstetrics," edited by Drs. M. D. Mann, of Buffalo, and B. C. Hirst, of Philadelphia, in four very handsome octavo volumes, will appear shortly, according to the announcement made by the publishers, Lea Brothers & Co., Philadelphia.

JOUSSET, a leader among European homœopaths, gives the following expression to a belief that is in him: "Homœopathy cannot take the place of palliative medication; nor of surgical medication; nor of antidotal medication in cases of poisoning; nor of parasiticide medication whenever clearly demanded; nor of medication by mineral waters; nor of hydrotherapeutic medication; nor of medication by electricity; nor even of empirical medication. Homœopathy is not everything, and liberal medication must include all collateral modes of treatment."—*Medical Age.*

THE GUILD OF ST. LUKE, Evangelist and Physician, has been organized in this country among physicians and medical students who are communicants of the Protestant Episcopal Church. Its chief objects are declared to be to encourage a higher Christian life, to discourage wickedness and vice in the profession, and by avoiding profanity and unclean conversation to encourage reverence for sacred things; also to promote and defend the faith, and to aid in the support of medical missionaries. The entrance-fee is one dollar; annual dues, fifty cents. W. Thornton Parker, M.D., of Newport, Rhode Island, is Provost; Rev. W. F. Morrison, Chaplain U.S.N., is the Secretary.

MEDICAL DEGREES FOR LONDON STUDENTS.—A large meeting of the students of the London Hospital was recently held to discuss the scheme for providing medical degrees for London students. Dr. Langdon Down, in the chair, was supported by Mr. Treves, Dr. Francis Warner, and Mr. Munro Scott (Warden). Mr. F. Treves proposed, and Mr. J. Moore seconded, "That a committee be formed to draw up a petition to the Royal Colleges, praying that they use their best endeavors to obtain the power of granting a degree in medicine, and that this committee take such steps as they may think fit to support this petition." Dr. Warner spoke in support of the proposition, which was carried unanimously. Messrs. H. Smith, Watts, Moore, Taylor, and Rayner were elected on the committee, the latter to act as secretary. The meeting was enthusiastic throughout.

ANTISEPTIC COLLODION.—The *Journal de Médecine* of December 26 contains an account of a new kind of "collodion" which is antiseptic and promotes cicatrization. It does not cause inflammation, and may be substituted for collodion made from gun-cotton in the treatment of wounds and bruises. Like traumaticine, it is efficacious in relieving neuralgic pains and acute or chronic rheumatism. The affected parts should be sponged with it every twenty-four hours, and in serious cases every six hours. If strips of linen or silk be soaked in this collodion, an excellent sticking-plaster is obtained, which quite equals English court-plaster. The following is the formula: Mastic in globules, three grammes; balsam of Peru, one gramme; narcotine, one gramme. Each ingredient should be ground separately, and five grammes of chloroform added thereto.

ADOPTION OF NON-RESTRAINT IN THE STATE LUNATIC ASYLUM AT UTICA.—Dr. G. A. Blumer, the new superintendent at Utica, has inaugurated his official course by abolishing mechanical restraint, resort to which had been steadily decreasing in frequency for some years, under the late Dr. John Gray.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 27, 1887, TO APRIL 9, 1887.

CAPTAIN JOHN VAN R. HOFF, ASSISTANT-SURGEON.—Ordered for duty at Fort Reno, Indian Territory. S. O. 43, Department of the Missouri, April 4, 1887.

CAPTAIN W. H. CORBUSIER, ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 35, Department of Arizona, March 29, 1887.

CAPTAIN HARRY O. PERLEY, ASSISTANT-SURGEON.—Ordered for temporary duty at Fort Maginnis, Montana Territory. S. O. 23, Department of Dakota, March 18, 1887.

CAPTAIN H. G. BURTON, ASSISTANT-SURGEON.—Ordered to Plattsburg Barracks, New York, for temporary duty. S. O. 78, A. G. O., April 5, 1887.

CAPTAIN L. A. LA GARDE, ASSISTANT-SURGEON.—Ordered for duty at Fort Assiniboine, Montana Territory. S. O. 78, A. G. O., April 5, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING APRIL 2, 1887.

PASSED ASSISTANT-SURGEON J. R. WAGGENER.—Commissioned a Surgeon on the 18th of March, 1887.

PASSED ASSISTANT-SURGEON H. B. FITTS.—Ordered to the Receiving Ship "Vermont."

ASSISTANT-SURGEON E. C. TRACY.—Detached from the "Vermont" and ordered to the "Atlanta."

PASSED ASSISTANT-SURGEON A. C. HEFFINGER.—Detached from the "Atlanta" and ordered on special duty in connection with construction of hospital at Widow's Island, Maine.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING APRIL 9, 1887.

URQUHART, F. M., PASSED ASSISTANT-SURGEON.—To assume charge of Cape Charles Quarantine, March 29, 1887.

NORMAN, SEATON, ASSISTANT-SURGEON.—To report for duty at Cape Charles Quarantine, April 2, 1887.

BAILHACHE, P. H., SURGEON.—Detailed as chairman Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

PURVIANCE, GEORGE, SURGEON.—Detailed as member Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

GODFREY, JOHN, SURGEON.—Detailed as recorder Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

IRWIN, FAIRFAX, PASSED ASSISTANT-SURGEON.—To proceed to Baltimore, Maryland, on special duty, April 8, 1887.

PETTUS, W. J., ASSISTANT-SURGEON.—To proceed to Norfolk, Virginia, for temporary duty, April 4, 1887.

PHILADELPHIA, APRIL 30, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE ON RETENTION OF URINE.

Delivered at the Hospital of the University of Pennsylvania

BY JOHN ASHHURST, JR., M.D.,

Professor of Clinical Surgery, etc.

(Reported by WILLIAM H. MORRISON, M.D.)

GENTLEMEN,—I bring before you today a case of retention of urine, in which I have found it necessary to afford relief by the method described by Mr. Cock as "tapping the urethra at the apex of the prostate gland." I shall take this opportunity of making a few remarks on the subject of retention of urine. Retention must, in the first place, be distinguished from suppression. The latter is a much graver condition, and depends upon some fault in the kidney, either from organic disease or from sympathy with some other portion of the body. As a result the urine is not secreted, and the waste matters remaining in the blood soon give rise to symptoms of uræmia. In retention the urine is secreted but is not passed, and accumulates in the bladder. If there be free secretion of urine, and only retention, the patient may live almost indefinitely, particularly when the retention is of a chronic character, such as we meet with in the case of old persons with enlargement of the prostate. In these cases, retention more or less complete may last for many months. Some years ago a patient presented himself at this hospital, with the statement that his urine was running away all the time. He had been under treatment for paralysis of the bladder. On examination the bladder was found to be greatly distended, the vesical tumor reaching to the umbilicus. There was a certain amount of dribbling, but the bladder had remained full of urine for at least a year. The whole trouble was due to enlargement of the prostate.

Retention of urine may be due to several conditions. It may be the result of spasm. If a person is obliged to hold his water for an unusual length of time, it not unfrequently happens that when he attempts to empty the bladder he finds that he is unable to do so on account of spasm at the neck of the organ. Retention may also depend upon certain general conditions of the system: thus, in typhoid fever retention of urine is a common occurrence. There it is due to the fact that the nervous system, being under the influence of the poison of the disease, fails to recognize the necessity of emptying the bladder. The bladder, under these circumstances, may become much distended and great harm result.

Among the conditions that more commonly come under the observation of the surgeon is what has been termed spasmodic stricture, which is a condition very similar to the spasm at the neck of the bladder already referred to. A person may become chilled from exposure to cold, and when he attempts to pass water finds that he is unable to do so on account of spasm. There is another condition, which is termed congestive retention. Under such circumstances there is probably always some organic change, some stricture, which under ordinary circumstances gives no annoyance; but, as a result of some cause, congestion takes place in the tissues around the stricture, and retention of urine ensues. This appears to have been the condition in the present case. The patient has had a stricture for many years; then, as a result of exposure, there was increased congestion, he was unable to pass his water, and it was found impossible to pass an instrument.

The most important causes of retention of urine are, however, true or organic stricture of the urethra and enlargement of the prostate. It is necessary to distinguish between these, as their treatment differs. Retention from stricture is a more dangerous condition than retention from enlarged prostate. If the patient be a young man, it is probable that the difficulty is not due to enlargement of the prostate, though there may be an acute protatitis following gonorrhœa which may be accompanied by retention. The ordinary form of prostatic hypertrophy is to be looked for in those past middle life. It rarely occurs before the age of fifty years, while stricture is more common between the ages of twenty and fifty years. The age of the patient may therefore enable the surgeon to form an idea as to the cause of the retention. If the retention be not complete or constant, some information may be obtained by observing how the patient

passes water. In stricture, although the urine may be passed in a narrow stream, it is passed with a certain amount of force. The propulsive power of the bladder is not impaired, and the urine may be projected through the stricture even more powerfully than under normal circumstances, in accordance with the law of hydraulics that the force of a stream is increased in proportion to the diminution of the calibre of the tube through which it flows. If there be enlargement of the prostate, the urine will dribble from the end of the urethra instead of being passed in the ordinary parabolic curve. In this condition, the cause of the obstruction involves the propulsive power of the bladder.

The use of an instrument is, of course, the most satisfactory method of determining the cause of the retention. If the instrument be arrested in front of the prostatic portion of the urethra, the obstruction is due to stricture, but if it be stopped in the prostatic portion we know that there is enlargement of the prostate gland. The distance at which the prostate is reached varies in different cases, but the average is six inches. If the obstruction be found at less than six inches from the meatus it is probably due to stricture, but if the distance be more than six inches the prostate gland is probably at fault. As I have already said, it is important to make the distinction between these two conditions, for not only does the treatment vary, but the urgency is also different. If the retention be due to enlargement of the prostate, you may temporize to a certain extent. There is not likely to be such acute distention as will cause rupture of the bladder, and the patient may with safety be allowed to go a certain length of time without active treatment. In stricture, however, the patient is in more imminent danger, and, unless relieved, rupture of the urethra may occur. Rupture of the bladder does not often result from retention due to stricture. If the bladder be distended and the patient receive a blow over the pubes, rupture may occur, and the urine may escape into the peritoneum, exciting peritonitis, or it may be extravasated into the pelvic cellular tissue. If there be simply distention without violence, it is usually the urethra that gives way. The patient, after a violent straining effort, suddenly feels a sense of relief, the urine passes into the cellular tissue, and after a time gives rise to sloughing and gangrene, requiring free incisions to evacuate the effused fluid.

In retention from enlarged prostate it is usually possible to introduce an instrument without much difficulty, if a proper instrument be employed. The physician is apt to use the catheter found in the pocket-case, which, while sufficiently long for ordinary use, is not long enough to reach the bladder in many cases of prostatic obstruction. I have been called some distance into the country to empty the bladder in a case of retention from enlarged prostate, where the whole difficulty was due to the fact that the instrument employed had been too short. Sometimes there is enlargement of the prostate without obstruction. This occurs when the third lobe is not involved. In almost all instances, if the catheter be sufficiently long and of the proper curve, the retention can be relieved. A good plan is to have one of these long English catheters kept constantly over-curved. The catheter must not only be long, but it must be more than ordinarily curved. In order always to have one in readiness, it is well to keep the stilette over-curved. When the wire is withdrawn, the instrument will retain sufficient curve to pass the obstruction. Another good plan is to mould the catheter to the desired curve by placing it in hot water, and then fixing it in this position by immersing it in cold water. It will then keep the curve sufficiently long to permit the obstruction to be passed. There are special catheters made for these cases of enlarged prostate. Some are made with a large curve, while others have a short angular beak, as in this Mercier's or elbowed catheter. This instrument is straight for nearly its whole length, and then has an acute bend. This is sometimes useful, as the sudden rise of the beak enables it to slip over the obstruction.

If you are unable to introduce an instrument in a case of enlarged prostate, it becomes necessary to resort to some operative procedure. Tunnelling the prostate has been recommended. This consists in taking a solid instrument, directing it in what is considered the proper direction, and then forcing it through the prostate gland. This is a dangerous procedure, and apt to be followed by hemorrhage. If you have to resort to any operation, the best plan is to tap the bladder. If the prostate be not large this can be done

through the rectum, but if the prostate be much increased in size it is safer to tap above the pubis. This may be done very conveniently with the aspirator, but this has the disadvantage that the operation will probably have to be repeated as often as the bladder refills. It sometimes happens, however, that within a few hours after a patient has been relieved he is able to pass his water in the natural way. This also occurs after the use of the catheter, and the patient may go a considerable time without again requiring its aid.

Where the obstruction is due to stricture, and it is found impossible to pass an instrument, the urethra may be opened behind the point of obstruction. In this case I tapped the urethra at the apex of the prostate gland. Stricture, as you know, never involves the prostatic portion of the urethra, but is usually seated at the junction of the bulbous and membranous portions. If therefore an opening is made in the urethra at the apex of the prostate gland, you are certain to get behind the stricture. Such an operation is of course not adapted to retention due to enlargement of the prostate, although even there it may be employed to facilitate the introduction of a catheter. In performing the operation, an incision about three-quarters of an inch in length is made in the median line of the perineum, beginning half an inch in front of the anus. The forefinger of the left hand is introduced into the rectum and placed at the apex of the prostate, which can be readily recognized. The knife is then inserted into the incision, with its back towards the anus, and, guided by the finger in the rectum, is pushed onward until its point reaches the apex of the prostate gland. Having reached that point, you cut forward. This opens the urethra, which is at once known by the gush of urine. The knife is then withdrawn and a grooved director passed into the bladder, when, if the opening is not found to be sufficient, it may be cautiously enlarged. An elastic catheter is next introduced upon the director and secured.

The operation was performed in this case five days ago. We shall now remove the tube for the first time, and insert a clean catheter. The urine is beginning to escape by the side of the tube, and in a few days we shall dispense with it entirely. In the course of another week the urethra may be in such a condition as to permit the passage of an instrument, although when the operation was performed this was impossible. If a sound can be passed, we shall be able to cure the stricture by simple dilatation. If we are still unable to pass the stricture, I shall submit to the patient whether he desires an operation for the cure of the stricture, or whether he is satisfied to pass his water through the perineum. Many patients prefer the latter alternative, which is attended with no particular inconvenience. The sphincter power of the bladder is of course preserved, so that there is no incontinence. The only inconvenience is that in urinating the individual must assume a sitting posture. I have had patients who have submitted to an operation for the relief of the stricture, but, finding a tendency to recontraction requiring the constant introduction of instruments, have preferred to abandon the urethra and pass water through the perineum.

The operation which I have described is adapted to cases of retention of urine due to stricture, and not to those due to any other condition. When the retention is due to enlarged prostate, and a catheter cannot be passed, the bladder must be opened either behind the prostate or above the pubis. For the simpler forms of retention from spasm, it is usually sufficient to put the patient in a warm bath and give an anodyne. If this is not successful, a remedy which was formerly much employed may be tried. This is the tincture of the chloride of iron. This has the effect of relieving spasm, and has been found to be very successful. Where you can do it, however, it is always better to relieve the retention at once by the use of the catheter, a soft instrument being preferred. It is not desirable to have the retention last even a few hours, for there is always a certain amount of damage done to the ureters and kidneys even in this short period.

[NOTE.—The perineal tube was permanently removed two days subsequently, and on the thirteenth day a small sound with Thompson's curve (No. 7 of the French scale) was passed through the stricture with very little difficulty, and without causing any discomfort. The patient therefore can, no doubt, be cured by the ordinary method of dilatation, and the perineal wound will close of itself when the calibre of the urethra is restored.]

ORIGINAL COMMUNICATIONS.

REPORT OF A CASE OF INNOMINATE ANEURISM TREATED BY SIMULTANEOUS DISTAL LIGATION OF THE RIGHT COMMON CAROTID AND SUBCLAVIAN ARTERIES—RECOVERY.

Read before the College of Physicians of Philadelphia, March 2, 1887,

BY H. R. WHARTON, M.D.,

Assistant Surgeon, Hospital of the University of Pennsylvania.

I BEG to report the following case, which was operated upon by Professor John Ashhurst, Jr.

Andrew C., aged 42 years, who was born in Scotland and served for a time in the British army, and whose present occupation is that of a gardener, presented himself at Professor Pepper's clinic at the University Hospital with the following history. Eighteen months before his admission to the hospital he began to experience pain running from the throat to the right shoulder and arm, and this continued to be noticed at intervals until six months ago, when he began to be troubled with shortness of breath, and complained of a paroxysmal cough and difficulty in swallowing; at this time he noticed a swelling appearing above and a little to the right of the sternum.

From this time he suffered much from the symptoms above described, and had also great difficulty in sleeping in the recumbent position, and spent large portions of his nights in the sitting posture. The patient had never had syphilis, and the only thing to which he could attribute his present condition was a severe fall upon the right shoulder which had occurred two years previously.

The result of the examination by Professor Pepper was as follows. The patient presented a swelling above the sternum, extending from the middle line two inches to the right along the line of the clavicle. Inspection showed decided pulsation in the swelling, and palpation revealed its expansile character. Auscultation detected no bruit or thrill in the tumor, but the heart-sounds were heard over the area of swelling with great clearness; no murmur was detected over the right carotid or subclavian arteries; examination of the heart showed that its sounds were clear. There was noticed great venous suffusion of the face with distention of the venous trunks when the patient leaned forward. The left pupil was large, the right of moderate size; the right pupil promptly responded to light, the left one acted sluggishly. The radial and other accessible arteries were soft to the feel, so that there was no evidence of wide-spread arterial disease.

As the result of his examination, Professor Pepper was of the opinion that the patient was suffering from an aneurism of the innominate artery.

The case was referred to Professor Ashhurst, and was admitted to the surgical ward.

Professor Ashhurst, after a careful examination of the patient, concurred as to the diagnosis of innominate aneurism, and decided that the treatment by simultaneous distal ligature of the right common carotid and right subclavian arteries was that which offered the most hope of a cure of the aneurism, or at least of benefiting the patient's condition.

On November 13, one week after his admission to the hospital, the patient was etherized, and Professor Ashhurst cut down upon and ligated the common carotid artery just above the omo-hyoid muscle with a catgut ligature; the right subclavian artery was next exposed and ligated in its third part just outside the anterior scalene muscle with a ligature of the same material. The wounds were closed with silver sutures, drainage-tubes being introduced, and were dressed with oiled lint, the whole right arm being wrapped in cotton.

No immediate effect was noticed in the aneurism from the application of the ligature, nor were there any cerebral symptoms. The patient did well after the operation, and upon the succeeding day the temperature and color of the right arm were good. The wounds did well, and in the course of a few days it was noticed that the tumor at the root of the neck had become smaller and firmer and that its pulsations had diminished in force, the dyspnœa and dysphagia had also diminished very markedly, and the patient was able to sleep comfortably in the recumbent posture. Up to the time of his discharge from the hospital, repeated examination failed to discover any pulsation in the radial artery. After this time the patient's improvement was continuous, and he was discharged from the hospital on January 13, just two months after the operation, at which time he was examined by Professor Osler, who made the following report:

"Inspection shows no pulsation visible; right sterno-clavicular articulation prominent. Palpation reveals systolic shock at right sterno-clavicular articulation, and upon firm pressure a feeble pulsation can be felt; this is also noticeable when the finger is placed in the sternal notch. Percussion gives a clear sound beneath the first bone of the sternum until you approach close to the clavicle. There is a small area of dulness beneath the area of prominence. Examination of the heart shows the apex-beat visible just below the nipple; feeble cardiac pulsation felt on deep pressure. No increase of heart-dulness; heart-sounds clear at apex; at second right

interspace, first sound feeble, second sound loud and ringing. Accentuated second sound over first bone of sternum. Over the swelling at right clavicular articulation, first sound is dull, free from murmur, and the second sound is loud. The accentuation of the second sound is heard as far as the middle of the right clavicle; most careful examination fails to discover any indication of murmur."

The treatment of innominate aneurism by the consecutive or simultaneous application of distal ligature to the right common carotid and subclavian arteries has been employed in a sufficient number of cases, and the results following the operation have been of such a nature that it is now established as a well-recognized surgical procedure in the treatment of this affection.

The *rationale* of the treatment of innominate aneurism by the distal ligation of the right common carotid and subclavian arteries is as follows. By the occlusion of the right common carotid and subclavian arteries, if both be tied simultaneously, the amount of blood passing through the aneurismal sac is diminished about two-thirds, and there is a proportionate slowing of the circulation of the blood through the sac; the circulation continuing through the aneurism is, probably, about one-third of the usual amount, representing the blood sent to the large branches given off from the first part of the subclavian. By means of this diminished and retarded circulation we have, in favorable cases, consolidation, to a greater or less extent, of the aneurism, either from the formation of a laminated clot on the inner wall of the sac, or from the extension backward of a thrombus which starts at the site of the distal ligatures upon the carotid or subclavian arteries.

If the ligatures be applied consecutively to the carotid or subclavian arteries, the circulation of the blood-current through the aneurismal sac is diminished to a less degree upon the application of the first ligature. In cases which terminate favorably after this operation, the aneurismal tumor diminishes in size and becomes firmer, the pulsation becomes less distinct, and the pain and pressure-symptoms, if they had previously existed, disappear; that pulsation at the site of the aneurism is seldom entirely wanting is accounted for by the fact that a certain amount of blood still finds its way through the sac to supply the vessels given off from the first part of the subclavian.

The question as to whether it is better to practise simultaneous or consecutive ligation of the carotid and subclavian arteries in this form of aneurism is one upon which the highest surgical authorities hold some diversity of opinion. Mr. Barwell, whose successful cases and writings upon this subject have given a great impetus to the treatment of innominate aneurism by distal ligature, is of the opinion that the most rational form of treatment consists in the application of simultaneous distal ligatures to the carotid and subclavian arteries in properly selected cases.

He opposes the application of consecutive ligatures unless in exceptional cases; and in this opinion he is sustained by Mr. Erichsen, on the ground that by tying one vessel only, time is allowed for the gradual dilatation of the collateral vessels given off from the first part of the subclavian artery, thus rendering the application of the second ligature less effective in diminishing the amount of blood passing through the aneurismal sac.

He concludes that the result of tying the right carotid artery alone for innominate aneurism is not satisfactory, as this vessel has been ligated for innominate or aorto-innominate aneurism thirty times, with twenty deaths; and in case of aortic or aorto-innominate disease it has been tied seven times, and in only one instance has it proved beneficial. He concludes, therefore, that in low innominate aneurism, which almost always involves, to a certain extent, the aorta, it is safer to tie simultaneously the carotid and subclavian arteries than to tie the carotid alone.

Mr. Holmes, upon the other hand, looks with more favor upon the consecutive application of the ligatures; he considers the carotid ligature most important, and recommends its application first, and reserves the ligation of the subclavian for a subsequent period. He is in favor of ligating first the vessel in the direction in which the aneurism exhibits the greatest tendency to spread. He also believes that the distal ligature is efficacious in the treatment of innominate aneurism which is of the mixed variety, which is associated with marked aortic disease; in this opinion controverting the previous teaching that innominate aneurisms associated with aortic disease are unfavorable cases for

distal ligation. In this latter opinion he is supported by the favorable results following the ligation of the left carotid artery for aortic aneurism, as suggested by Mr. Cockle.

So far as I am able to ascertain, consecutive double distal ligation of the right carotid and subclavian arteries has been practised for innominate aneurism (as diagnosed) in eight cases, with three recoveries and five deaths, although there was temporary relief in one of the fatal cases.

I have been able to find the records of thirty-two cases of simultaneous double distal ligation of the right carotid and subclavian arteries for innominate aneurism (as diagnosed), in which the operation was followed by recovery in twelve cases, by death in sixteen cases, and by temporary improvement in four cases. It will be seen that the results of both methods of treatment as regards the number of recoveries is nearly equal, but it must be remembered that the number of cases in which consecutive ligation was resorted to is very small in comparison with that in which simultaneous ligation was employed. I think, therefore, that at the present time the weight of surgical opinion is in favor of the views of Mr. Barwell, that in innominate aneurism the simultaneous double distal ligation of the right carotid and subclavian arteries is both a more efficient and safer procedure than the consecutive ligation of these vessels.

REVIEW OF THE PROGRESS OF MEDICAL AND SURGICAL ELECTRICITY.

BY WILLIAM R. D. BLACKWOOD, M.D.,
Neurologist, Presbyterian Hospital.

ELEVATION OF TEMPERATURE BY LOCALIZED ELECTRIZATION.

At a recent meeting of the Biological Society of Paris, M. Quinquand reported the results of a series of experiments on localized electrization in animals. He claims to have caused decided elevation of general temperature by this method, and so great was the result in certain instances "in increasing the central temperature as to kill the dog in a short time." The form of current used, the strength or duration, were not given (special correspondence to *British Medical Journal*), nor did he state upon how many experiments his deductions were based. Careful repetition of his method has failed in our hands to corroborate the assertion of this gentleman, under any strength of current, either galvanic or induced, within reasonable bounds, whether in man or animals. The *local* rise was of course observed, but under all circumstances the elevation was transient. No general or central heightening was at any time noticed. The applications to animals were possibly not of value, as cruelty was studiously avoided; but in patients, and particularly in personal applications, the utmost bearable limit was reached with the results noted.

A tabular statement of the effect of electricity, both galvanic and faradic, in *lowering* abnormal temperature was included in a review in this journal not long ago,* the experiments being made by the writer.

According to M. Quinquand, the venous blood returning on the side treated contained less sugar than that of the opposite group of muscles: hence he argues that localized electrization would be a therapeutic method of increasing temperature generally, and that many physiological phenomena could thus be studied experimentally. This phase of the matter has not been investigated by the writer as yet, for lack of time, but it will be taken up shortly.

ELECTRICITY IN URINARY DISEASES.

Dr. W. E. Steavenson, electrician to St. Bartholomew's Hospital, contributes an article to the *British Medical Journal* in which he advocates galvanism in nocturnal incontinence of children and in relaxed sphincter of adults. Cystitis also has been benefited by the constant current in his practice, and the ordinary cases of undue frequency of micturition are much relieved by galvanism.

Dr. W. Bence Clarke also gives his experience in similar cases, and adverts to the treatment of gleet by electricity. The reporter called attention to the method five years ago in these pages, in which article the opinion was expressed that electricity is of service in treating inflamed surfaces such as exist in gleet, aside from the fact that stricture almost invariably coexists with chronic gonorrhœa. Dr. Clarke always uses the negative in the urethra, but, al-

* Philadelphia Medical Times, July 10, 1886.

though the writer does so usually, now and then he employs the positive internally. Under such circumstances the urethral rheophore is kept moving slowly from point to point to prevent caustic effect.

GALVANISM IN CHRONIC ULCER OF THE TONGUE.

Meyer recently gave an account of a case in *Berliner Klin. Wochen.* of a badly ulcerated tongue which had resisted treatment for nine years. It was originally caused by biting it during labor. The acute sensitiveness precluded all but liquid diet. One hundred and ninety applications were made prior to cure,—a very large number indeed, when the case is contrasted with those of leg ulcer, which are amenable to treatment in a fifth of the time noted.

In a recent case of the writer's, which resisted strapping, cauterization, and local depletion, with innumerable astringent and other lotions, ten sittings completely cured the patient. The force was twelve to fifteen milliampères.

Since writing the above, a much worse case has promptly recovered under galvanism. The patient was unable to attend to any duty from the pain of the ulcer, but is now on her feet for twelve or fourteen hours daily, although the varicose veins persist.

INDUCTION OF PREMATURE LABOR BY ELECTRICITY.

Dr. Green quotes from Walcher a case needing premature delivery from contracted pelvis, in which a current from ten elements was used,—the positive over the fundus, the negative in the cervical canal. Pains came on at every sitting, and in eleven séances labor set in. Bayer also reports four cases, and Baird, of Albany, reports two hundred and twenty cases. This gentleman employed faradism. He advocates electricity: 1, to modify the pains of labor; 2, to favor more rapid dilatation of the os; 3, to promote more vigorous uterine contractions; 4, to add tone to the abdominal muscles and to increase their working force; 5, to shorten the duration of labor; 6, to insure firm contraction, and thereby prevent post-partum hemorrhage, shock, and exhaustion; 7, to prevent undue expenditure of nervous force in debilitated cases, and thus invite prompt convalescence.

Several years ago the writer called attention to the use of electricity in obstetrics in the *American Journal of Obstetrics*, in which article the above points, with others, were considered and illustrations given of favorable results in inducing labor, in shortening the second stage, in controlling hemorrhage, and in securing rapid involution after delivery. We have found electricity superior to any other method of inducing premature labor from about the thirtieth week in a number of cases in which we assisted professional friends, and induction-currents were always preferable for this purpose. No pains were taken to exclude the fœtal head from the circuit, as Baird asserts to be necessary, because we do not believe that the current takes a straight line between the rheophores, but passes *around* the child through the better-conducting tissue of the uterus, the membranes offering considerable resistance.* Further, we do not believe that, except with extraordinarily skilled practitioners, the vaunted abdominal palpation is of much value, the result of our observations being that in most cases quite prominent gentlemen were mistaken in their diagnosis of the position, as finally proved by the accouchement. Moreover, no current of either galvanism or faradism can injure the child unless it exceed anything bearable by the mother.†

GALVANISM IN SCIATICA.

Dr. W. E. Steavenson gives a *résumé* in the *London Lancet* of sixty cases of sciatica treated exclusively by galvanism. Thirty-seven were cured, eleven were improved, two had returns which were then cured, nine did not continue treatment long enough for a fair test, and one still was ailing. From six to fifteen applications were required to complete the cure.

GALVANISM IN RECTAL STRICTURE.

Mr. Whitmore read a paper on this subject before the West London Medico-Chirurgical Society recently, giving notes of several cases thus treated, and he expressed great satisfaction with the results. One instance, in which two years' dilatation with bougies failed to alleviate, and in which the symptoms were alarming, was cured in three months under electricity. The method of operating was not stated.

It is singular that this has hitherto been untried in this affection, in view of the

* Medical Bulletin, May, 1885. † Ibid.

great service resulting from electrolysis in urethral stricture. How galvanism will act in stricture of the œsophagus is probably unknown: at least the writer is not aware of any reported cases. In the only one tried by himself the current could not be borne by the patient,—a delicate though not nervous lady,—even as low as three milliampères.

GALVANISM IN EXTRA-UTERINE PREGNANCY.

Dr. A. H. Goelet gives in the *New York Medical Journal*, December 6, 1886, notes of a case of extra-uterine gestation in which arrest of the pregnancy and dispersion of the resulting foreign body were produced by galvanism. The operation was done by Dr. Rockwell at three months, and was repeated twice more. Twenty cells were used (current-strength unknown), and for ten minutes each time. Relief from the characteristic suffering was secured at once at the first sitting, and in five months thereafter the tumor was scarcely perceptible to the touch. Galvanism was repeatedly used during this time, to insure absorption. The diagnosis appears from the description to be assured, and Dr. C. C. Lee coincided with Drs. Goelet and Rockwell in this view, after several consultations.

Dr. Aveling, senior physician to the Chelsea Hospital for Women, gives in the *British Medical Journal* notes of a case of extra-uterine gestation treated by faradism at the third month. Gaiffe's apparatus was used on four succeeding days, the tumor being clasped between an intra-vaginal rheophore and another over the abdominal parietes. The duration of each application was only ten minutes, and the current-strength was comparatively small, except during the last thirty seconds. The case was seen by Mr. Wrench, a surgeon of Baslow, and Sir Spencer Wells, and the diagnosis was confirmed by each. Two months afterwards the tumor was deemed encapsuled, but it was not reduced in size. Menstruation had been resumed, and the signs of pregnancy had disappeared.

Another case of ectopic gestation was reported in the same journal by Dr. Richard Petch, physician to the York Infirmary, in which galvano-puncture was employed.

In the debate upon the subject before the Obstetrical Section of the British Medical Association, at which a number of cases were referred to, Mr. Lawson Tait admitted his inability to diagnosticate extra-uterine pregnancy prior to rupture of the sac, and denied the ability of any one to make the discovery; but he was promptly met by our distinguished friend Dr. H. A. Kelly, of this city, who instanced one of his own cases in which a subsequent laparotomy confirmed the diagnosis. Now that the efficacy of electric treatment is abundantly manifest in rescuing the unfortunate mother from an almost certain death, despite the croaking of malcontents, claims of priority in thus operating are springing up all over the continent; but there is no doubt that Dr. Allen, of this city, was the first to demonstrate the procedure practically, just as Dr. Kelly has clinched the question of ability in the way of diagnosis. Philadelphia doctors are coming to the front, as their *confrères* the lawyers did some time ago.

With the experience gained from the treatment of five successful cases, I am surprised that any distinguished teacher should consider the diagnosis impossible or even difficult, or that doubt as to the method of operating should exist. That the strongest faradic currents obtainable from medical coils, when confined to the necessarily small area of the pelvis required, can injure the mother is to me inconceivable, yet the tetanization of the fœtal mass and its disintegration by the rapidity of the interruptions of current would inevitably destroy it. To do this also we must rely upon powerful currents *long continued*, and not risk the grave chance of rupture by spreading the treatment over a week, as is often done. *So much* current will destroy the embryo. Give *that much at once*, and keep it up for an hour at least. When assured of the fœtal death, then rely upon galvanism to disperse the tumor, which is an assured success, so far as I know from careful study of all recorded cases and knowledge of some not yet reported.

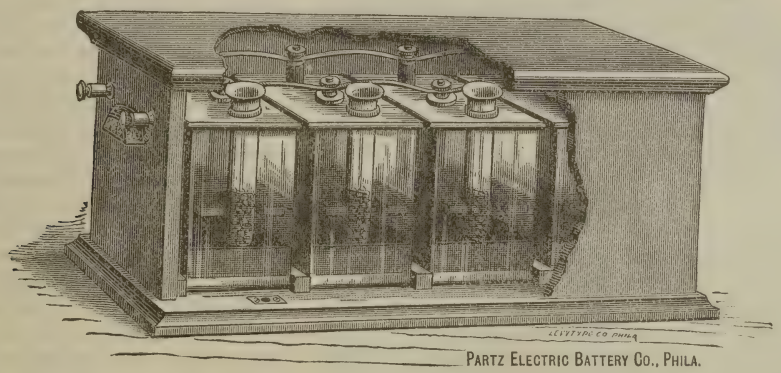
The case reported last summer by myself is now entirely well, and the mass was undiscoverable by the most careful examination after four months. Galvanism was used two or three times a week during this time.

FARADIZATION IN JAUNDICE AND HEPATIC TORPOR.

Dr. Henri Secretan stated to the Geneva (Switzerland) Medical Society the history

of a child affected with catarrhal jaundice. Before employing electricity various cholagogues were tried without avail, and the flow of bile was induced in three sittings of ten minutes each. One rheophore was applied over the site of the gall-bladder, and the other in the rectum.

In a series of articles on "Electricity in Abdominal Disorders,"* I have called attention to the efficacy of both galvanism and faradism in torpidity of the portal circulation, and a reference was made to the use of static electricity in sluggish liver. Since that time many cases have been treated by static electricity, and I am now of the opinion decidedly that no better agent exists as a cholagogue. Those who do not possess a static machine can depend upon faradism, however, and it is unnecessary to traverse the length of the bowel, as above stated, with any form of current. By applying the rheophores so as to include the liver in varied axial lines, thorough stimulation is insured, provided, of course, that patency of the ductus communis exists. Relief to many cases of congested hemorrhoids has thus been assured.



PARTZ ELECTRIC BATTERY CO., PHILA.

ELECTROLYSIS IN LUPUS VULGARIS.

Gärtner and Lustgarten have reported ten cases of lupus treated as follows, with good results. Instead of using needles for puncture, as usually done, they employ a flat silver rheophore, slightly curved and encircled by a vulcanite ring. The plate is recessed a trifle, in order to keep it from touching the sound skin, and the elevated nodules alone are pressed upon. This arrangement is attached to the negative pole, and the other to any near indifferent point. Up to ten milliampères is directed for fifteen minutes or so, and the part is dressed with iodoform. The leathery scab falls in about fourteen days, and leaves a flexible pigmented cicatrix. The procedure is painless. A better material would be zinc in place of the silver, as its caustic effect is greater.—*Wiener Med. Wochenschrift*, xxvii., xxviii., 1886.

GALVANO-PUNCTURE IN CERVICAL ADENITIS.

The galvano-cautery has been used by Professor Dumenil, of Rouen, in a number of cases of scrofulous enlargement of the cervical lymphatic glands. A platinum wire was heated after introduction, without anæsthesia, and little scar resulted. Suppuration ensued in a few cases, and all were rapidly resolved by the measure. As caseous cervical glands are foci for further involvement of visceral glands in tuberculosis, the destruction of them is not only a question of relieving deformity, but an important prophylactic measure.

GALVANO-PUNCTURE IN GYNÆCOLOGY.

Apostoli formulates as follows in gynæcological operations by electricity:

1. In treating either the uterine parenchyma or the periuterine cellular tissue, great care is needed to avoid the peritoneum in the puncture.
2. Drainage should be facilitated if suppuration ensues or is anticipated.
3. The punctures should not exceed five or ten lines in depth.
4. The bladder should be avoided carefully.
5. In all cases of lateral or posterior puncture the localities of arterial pulsa-

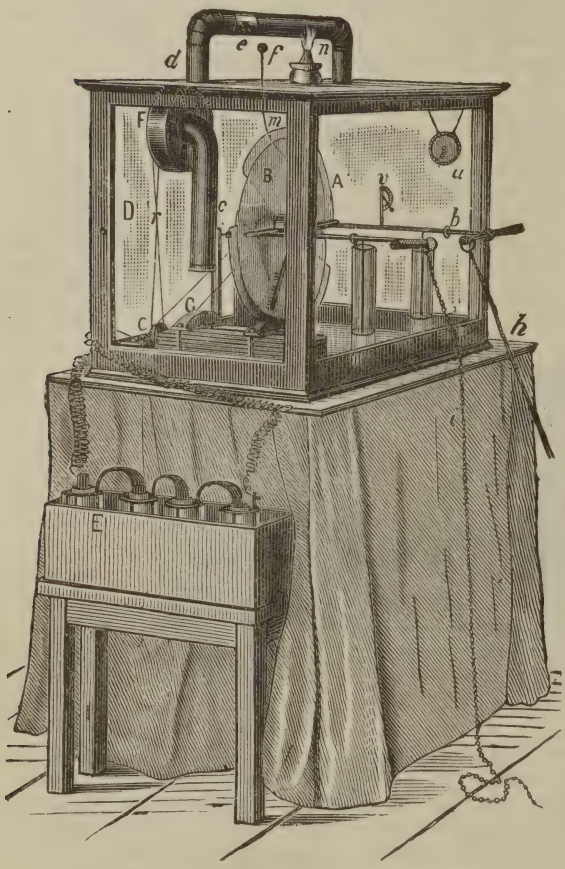
* Medical Bulletin, October, November, and December, 1884.

tion should be accurately determined and all large vessels avoided.

6. Rest in bed must be enforced for several days in all cases.

7. Antiseptic injections precede and follow all operations, and iodoform gauze tampons are habitually applied to all punctured points until complete closure ensues.

8. Sexual intercourse is prohibited until the cure is thoroughly assured.



Static Electrical Machine, with Hot-air Attachment.

GALVANO-CAUTERY IN HAY-FEVER, SNEEZING, AND ASTHMA.

Dr. F. De Haviland Hall describes a series of cases in the *London Lancet*, in which this method of treatment was successful. One lady, who had previously aborted whilst pregnant from uncontrollable sneezing, was carried safely to term by reducing a hypertrophied mucous membrane over the right inferior turbinated bone. Two cauterizations a fortnight apart sufficed. Dr. Hall also found a similar procedure serviceable in hay-fever, and anterior hypertrophies of the Schneiderian membrane in some cases of asthma. Local anæsthesia by cocaine was employed in all cases satisfactorily. We have found, during the summer, good results in two cases of the so-called "rose-cold" from light searing by the electric cautery.

NEW AND IMPROVED APPARATUS.

In our notice of the improvement in gravity cells by the Partz Electric Company in the *Times* of November 13, 1886, pressure on our columns permitted the introduction of one cut only. The cell illustrated was one with slotted cathodes, and is that intended to substitute the Leclanche, but the reference was to the new acid gravity, which is shown on page 501.

An ingenious method of insuring prompt action of static machines in murky weather is that now a favorite in France, where much more attention is paid to this form of electro-therapeutics than is done with ourselves. The air within the case is not only kept dry, but it is *warmed* to any desired temperature by maintaining its circulation through a tube in connection with a rotary fan-wheel. The two ends of the tube are within the case, but at a part which is exterior to it an alcohol-lamp heats the air as it passes. The fan, together with the rotating plates of the machine, is driven by an electro-motor, which is in turn energized by four Bunsen cells. Messrs. J. W. Queen & Co., of Philadelphia, are agents for the apparatus.

A NOTE ON THE IRRADIATION OF MOTOR IMPULSES.

Read before the College of Physicians of Philadelphia, March 2, 1887,

BY N. A. RANDOLPH, M.D.,
Professor of Hygiene in the University of Pennsylvania.

ABOUT two years ago this question arose in my mind: If a man perform work with the muscles of (*e.g.*) his

right hand exclusively, and to the point of fatigue, can he thereafter perform as much work, of the same nature, with the left hand as he could if the right had not been previously exercised?

It will be seen that this question relates in no wise to a comparison of the work of the two hands, but to an examination of the work which may be accomplished by one hand, as conditioned by the previous exercise or non-exercise of its fellow of the opposite side.

It is evident that the answer to this query is dependent on intracranial processes solely, and that such answer would throw some light upon the functional independence or interdependence of the two halves of the brain.

In order to answer the question just stated, certain conditions are prerequisite. The subject of experiment must have no conception of the object of the investigation, or he will unconsciously become a partisan of one or the other hand. He must also have a very strong inducement to exercise his volition to the utmost.

These conditions were fulfilled in the persons of some intelligent and vigorous convicts in the Eastern Penitentiary in this city. The stimulus was a money-prize to the man who accomplished the most work in a given time. In the prosecution of these experiments I am under obligation to the courtesy and assistance of Dr. W. D. Robinson, physician to the Penitentiary.

In the first series of experiments rubber-bulb syringes, identical in all their measurements, were used, and the amount of water which the men could transfer from one vessel to another in a given time was accurately measured and taken as proportionate to the work performed. Some forty observations were made by this method, with the uniform result that either hand could do more work when its exercise preceded than when it succeeded the similar exercise of its fellow of the opposite side. It was found, however, that the muscular effort could not be entirely restricted to one side of the body in this method, as great fatigue was always accompanied by a grimacing and writhing which implicated the muscles of both sides of the face and trunk.

A Morse telegraph was next used, the muscular movements in this case being restricted to an up-and-down motion of one finger of each hand, the number of such movements made in a given time being recorded on the usual long and narrow strip of paper as dots or dashes in accordance with the celerity of contraction and relaxation of the flexors of the finger. The results of this series of experiments were uniformly confirmatory of those before obtained, but the method had to be abandoned as productive of great eye-strain in counting.

I then had made the instrument which is here shown. It consists simply of the clockwork and dial of an ordinary gas-meter, to which a lever is adapted in such wise that each flexion of the finger is recorded by an appropriate motion of the index on the unit-dial. The apparatus is fixed in a box, upon which the hand and forearm may conveniently rest. The lever projects through an aperture in the lid, and a glass plate in the side permits the records on the dial to be easily read off and noted. Six healthy prisoners, supplied with the incentives of cash and competition, were repeatedly examined by this means. To each fifteen minutes were given to make the best record he could with (*e.g.*) the right forefinger, and thereafter the left forefinger was similarly exercised for the same time. On the following day the same process was repeated, always commencing, however, with the finger of the hand which had been used second on the previous occasion. No hand was ever thus employed twice on the same day.

The results were practically uniform. The man who for fifteen minutes flexed and relaxed his right forefinger with the greatest speed possible to him would, on the following day, accomplish on an average nearly ten per cent. less work with that finger when its exercise was consecutive to a similar exercise of the forefinger of the opposite side than when its work was initial.

Usually, more work could be accomplished by the simultaneous exercise of the two forefingers than by their exercise one after the other. In such exercise of both hands at once, and apparently from some unconscious effort at rhythm on the part of the subject, it was noted that the movements of the left forefinger were generally more active and rapid than when used alone, although in both instances the greatest effort at speed was evidently made. I am told that some pianists have a similar experience, inasmuch as they find it pos-

sible to exercise the fingers of the left hand more rapidly when the right is similarly engaged than when the right is inactive.

The relation of these facts to the observations of Dr. S. Weir Mitchell and Dr. Morris Lewis is largely supplemental in its nature. These observers, as is well known, showed that the knee-jerk is reinforced by any voluntary movement in any part of the body, and that this reinforcement was apparently due to such an irradiation of motor impulse from the active centres to other similar centres as placed them and their related muscles in a condition of heightened responsiveness to external stimuli. My studies not only tend to confirm these observations, but to show that the fatigue of one centre may induce a sympathetic fatigue in other centres.

These observations are of interest, inasmuch as they suggest that the centres for volition, attention, and co-ordination (or one or more of these) are not, in their functional activity, bilaterally symmetrical and independent, — that is, that these functions have not attained complete differentiation into right and left will, attention, or co-ordination; that probably the first effect of the voluntary activity of a portion of one cortical motor area is a stimulation of the corresponding portion of the other hemisphere, a stimulation that may result in its slightly premature fatigue; that apparently more work can be effected through the voluntary simultaneous exercise of two such portions of the motor apparatus than by their independent exercise, one after the other.

CASES PRESENTING PECULIAR MANIFESTATIONS OF MALARIA.

BY V. M. REICHARD, M.D.

IN the following cases the curability by quinine is considered as proof of the malarial nature of the disease. The cases belonging to the first series were treated in February and March, 1886; they were characterized by a peculiar temperature-record.

Case I.—Male, æt. 10. Health previously had always been good: now complained of what was considered a bad cold. Saw him on the second day in the evening, when his temperature was 101.5°. He had a harsh, irritating cough, with no expectoration; râles were heard over both lungs; pulse full and bounding; eyes injected, and lids somewhat swollen; bowels sluggish, and tongue slightly coated. Prescribed cathartic and nauseant expectorant. Next morning his temperature was 101°; the other symptoms were unchanged, except that the bowels had been pretty freely opened. So he ran on for several days, but without improvement. On examining his tongue more closely, I thought I noticed a condition which I have learned to associate with malarial fevers. The tongue was pretty well covered with a tough, white coating, except near the end, where it had very little if any coating. Through this the papillæ stood out prominently. Having failed signally in treating the "cold," I concluded to try the effect of quinine, and accordingly gave him twelve grains in solution; next day, ten; third day, five; continued at this daily dose for a week. After the first day his temperature remained normal, and he was up and about on the second day.

Case II.—Mrs. W., mother of Case I., æt. 35, of phthisical tendency. In the spring of 1884 she had a severe attack of catarrhal pneumonia, which left a slight impairment of left apex. The day her son first got up she went to bed, with pain in left mammary region and a temperature of 101°. Her cough was severe, with some mucous expectoration. I thought that I detected crepitant râles and beginning dulness over lower lobe of left lung, and instituted appropriate treatment. Saw her in the evening in very much the same condition: temperature still 101°. On the next day, as I could not find any adequate chest-symptoms, in lieu of something better I gave her twenty grains of quinine, with the result of clearing up the case. Under the regular use of quinine she made a perfect recovery, and has been in better health ever since than she had been at any time after February, 1884, though she was under great mental excitement while convalescing.

Case III.—E. W., youngest son of Mrs. W., æt. 4, was a bright, robust lad, who spent most of his waking hours out of doors, the type of a healthy country child. Went to bed the day his mother began to convalesce; saw him at 9 A.M. Except slight nervousness, he did not seem to be at all sick, and it was remarked by his parents and the nurse that it was his wish to be in bed with his mamma more than illness which kept him in. Ordered a mild laxative. At 4 P.M. he was taken with a convulsion, the most terrible it has ever been my lot to witness. Consciousness did not return until 10 P.M. He passed a moderately good night. Next morning the temperature was 102°, an uncontrollable diarrhœa set in, and he died in the evening, less than forty-eight hours after his first complaining. No post-mortem.

Case IV.—H. G., male, æt. 3, for several

weeks had been affected in an anomalous manner, now better, now worse; at no time much fever, and *at no time any periodicity*. This latter fact was noted in all this series of cases. There was not as much variation of temperature as in an ordinary case of typhoid fever. After having exhausted my resources and the patience of the family, I gave him quinine as an antimalarial, and the result was all that could have been wished.

Case V.—Male, æt. 12; was ill for several days. Evening temperature never above 103.5°; morning, never below 103°. In the light of the preceding cases, put him on quinine. As his stomach was irritable, mixed it up with an equal weight of chocolate. The case also promptly recovered.

These cases all occurred within a period of ten days, and all within a radius of one-eighth of a mile. Aside from the peculiar aspect of the tongue I have mentioned, there was nothing to indicate a malarial *element*, to say nothing of a malarial *cause*. Above all, there was no element of *periodicity*, which is regarded as so essential a feature of the continued malarial fevers.*

The next series of cases was also peculiar.

Case I.—J. W., male, æt. 4. When two years old, several lymphatic glands in the neck suppurated and were discharged. Was well up to August, 1886; then had enlargement of the cervical and submaxillary lymphatics. Put on treatment, with negative results. Seemed to be some periodicity in his malaise, but no distinct febrile exacerbation or remission. He was cured at once by quinine. Never had malarial fever.

Case II. and *Case III.*—Were sisters, who had long been subjects of malarial paroxysms, though they had had no attack for nearly a year. About the same time both were affected as Case I.,—decided glandular enlargement without any tendency to suppuration. It yielded at once (within thirty-six hours) to quinine. Both ladies were of strumous type.

Case IV.—M. T., female, æt. 20. About four years before, a horse had fallen on her and injured her left tibia; afterwards she had considerable trouble with it. In December, 1884, I had incised it, evacuating a small amount of pus, with the result of putting the leg in better condition than it had been since the accident.

In December, 1885, she began to have severe pain in the limb. Counter-irritation relieved it for a time. Pain would recur in spite of all treatment. As the attacks of pain seemed to recur at regular intervals, I put her on large but gradually diminishing doses of quinine. Recovery perfect. About six months afterwards had slight recurrence, but did not see her; she sent for some of the solution of quinine and was relieved. At no time was the temperature above 99.5°. Had never had malarial fever.

The only explanation of these cases I am prepared to offer is that the dose of the malarial poison was too small to cause a distinct outbreak. As a chain is no stronger than its weakest link, so the weakest local point in all four of these cases was the first to suffer. This is the only way in which I can conceive of these cases being malarial, but that they were so I am fully convinced. Cases II. and III. expressed a belief that they had malaria, knowing the sensation from prolonged experience in former years. None of the last series had a temperature above 100° during their treatment.

Fair Play, Maryland.

* Sternberg's "Malaria and Malarial Diseases," p. 209. (William Wood & Co.)

TRANSLATIONS.

Iodoform in the Treatment of Gonorrhœa.—In an interesting communication to *Le Progrès Médical* of March 5, 1887, M. Thiéry extols in high terms the use of iodoform in the abortive treatment of gonorrhœa. He states that he feels a certain timidity in presenting a new therapeutical agent for this most troublesome disease after so many others have been tried, accepted, and rejected; and yet, impressed with the fact—based upon the researches of Neisser and others—of the microbian origin of the disease, he was surprised that among all the antiseptics employed, such as corrosive sublimate, carbolic acid, boracic acid, resorcin, etc., iodoform should not have been included,—an antiseptic used daily in the practice of surgery.

Corrosive sublimate coagulates the albuminoids, forms non-antiseptic bases with them, and thus exerts but a passing and superficial influence upon the germs. Nitrate of silver acts upon the microbes, but at the same time seriously affects the mucous membrane. Iodoform, besides its antiseptic value, is readily absorbed wherever the mucous membrane is denuded, and is also decidedly analgesic,—two important qualities which adapt it specially to the treat-

ment of gonorrhœa. Its odor can easily be disguised by a little oil of eucalyptus, vanilline, etc.

The purpose of the abortive treatment of gonorrhœa at the present time is to destroy the gonococcus. This accomplished, the inflammation will readily subside with appropriate measures. In an examination of thirty-eight cases it was found that in the pus passed during the period from the first to the fifth day the gonococci were comparatively few in number. They increased from the fifth to the fifteenth day. The maximum was attained from the eighth to the tenth day, while after the fifteenth day they began rapidly to decline, sometimes remaining, however, as late as the end of the third week. These figures are important as showing the most favorable time for the use of the antiseptic injection. Antisepsis will be best accomplished during the first four days.

M. Thiéry reports six cases treated with the iodoform injection with the most gratifying results. In his *résumé* he states that as to iodoform-intoxication it seems impossible. In the employment of iodoform alone, its elimination can easily be verified by an examination of the urine. In one case only did the patient complain of the taste of iodine in the mouth. Its presence in the saliva could never be detected by means of the test. In its use there were no other uncomfortable sensations, and yet as many as twenty-nine injections had been given in a period of twenty-eight days. On the other hand, its action is safe, rapid, and positive, the microbes quickly disappearing, sometimes being entirely absent by the eighth day.

As failure in the treatment of gonorrhœa occurs usually on account of the patient's ignorance in managing the injection, M. Thiéry recommends that the physician always attend to this part of the treatment himself. He uses as the injected material iodoform *porphyrized* as completely as possible, and simply suspended in the oil of sweet almonds. Before making the injection, the urethra should be gently washed out, to remove as much of the pus as possible. Micturition just before the injection is the best means of accomplishing this result and avoiding any backward flow of the pus into the bladder. The olive-shaped nozzle of the syringe should be introduced just within the meatus. About two grammes of the liquid is then thrown into the urethra, and retained there by the patient holding his finger over the meatus for about twenty minutes. A strict and temperate diet should be used during the period of the injections.

Some Recent Studies upon the Bacillus Typhosus.—At a recent meeting of the Société Médicale des Hôpitaux, M. Chantemesse presented some interesting statements of the result of his studies, in company with M. Widal, upon the bacillus typhosus—the bacillus of Eberth and Gaffky. It is enlarged at the extremities, extremely mobile, and offers strong resistance to the usual modes of staining. It can be developed in meat-broths, better in gelatin, but best of all upon the potato, upon which it shows itself as a moistened thread after three days, sometimes not until after fifteen days. Slowness of development is specially characteristic of this bacillus. Reproduction takes place readily in pure water, especially if the water be sterilized. It resists cold, and will endure a temperature of 45° C. without perishing. It is destroyed by a temperature of 80° C., as well as by boiling for several minutes. It increases more rapidly in a moist than in a dry soil. As to the action of antiseptics upon its vitality, a $\frac{1}{20000}$ solution of corrosive sublimate will prevent its culture; a $\frac{1}{800}$ of sulphate of quinine will produce the same effect; while the $\frac{1}{400}$ of carbolic acid will have no effect at all upon its multiplication in a culture-fluid. By adding a two-per-cent. solution of hydrochloric acid to the culture the growth of the bacillus is retarded, but it does not die, for, on dropping a little of the fluid containing it into an alkaline broth, it will begin again to multiply with all its original vitality.

A propos to this subject, it is to be noted that M. Dujardin-Beaumetz read a report before a recent meeting of the French Academy of Medicine, in which, after stating the methods of M. Pecholier to jugulate the course of typhoid fever simply by means of quinine and tepid baths, he expressed the hope that the day would soon come when, after a better knowledge of the bacillus typhosus, we shall be able to possess an attenuated virus, permitting us to realize all the expectations now founded upon the proceedings of Pasteur.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 30, 1887.

EDITORIAL.

RECTAL INJECTIONS OF CARBONIC ACID GAS FOR PULMONARY DISEASES.

WHEN a new remedy is brought forward or a novel treatment advocated for that opprobrium of medicine, pulmonary consumption, there have never been wanting in its support the reports of cases which have had cough and expectoration reduced, night-sweats checked, and appetite improved, and which have experienced a proportionate gain in flesh and strength. That such results have been actually obtained from various and very diverse plans of treatment cannot be controverted: the files of medical journals contain hundreds of such reports contributed by men whose names are sufficient warrant for accepting the facts just as they are stated. It follows, then, logically, that the beneficial action which is claimed for each, but is exerted by all, cannot be the exclusive property of any. The influence of the mind over the body, especially the therapeutic value of hope, has a better field for demonstration in phthisis, probably, than in any other disease. Moreover, in instituting any plan of treatment the intelligent physician, as a matter of course, also corrects to a greater or less extent the hygienic faults in the mode of life, and this in reality is often of greater remedial value than the medicines which he prescribes with such confidence.

We make these remarks because we consider that these facts should be kept in mind when any new expedient is submitted to the profession for the treatment of consumption. Owing to a peculiar combination of circumstances (in which politics was not entirely absent), reports of the Bergeon method of treating phthisical subjects, which had been for a short time on trial at the Philadelphia Hospital, were prematurely published, with some embellishments, in the daily press, and it was widely heralded as a specific for consumption. Public interest was immediately excited to a remarkable degree, and it at once became a popular and all-absorbing topic for conversation in ball-room and barber-shop, in parlor and kitchen. It percolated into the country papers, and inquiries began to pour in with regard to the so-called "Philadelphia treatment" of consumption. Even the Sunday papers contain large illustrated advertisements of the manufacturers of the new apparatus for the administration of gas. There is evidently now a popular craze upon the subject, which will doubtless be utilized by some members of the profession so as to reap a rich harvest from it while it lasts. But we have sufficient confidence in the intelligence and honesty of the mass of the profession to believe that extravagant hopes will not be encouraged, and that patients will be told that, while some of the symptoms may be relieved by carbonic acid gas, the method is still in its experimental stage, and is by no means a specific, or even certain in its beneficial action. The results which have been claimed for it can be obtained and have been obtained by other means of treatment which have stood the test of experience and are already the property of the profession. Moreover, advices from Paris inform us that the interest there is declining, and that Germain Sée has abandoned this method because the results have not been satisfactory.

The evil following from the manner in which the treatment has been brought before the public is evident in two directions. In the first place, the impression is given that the profession would not so eagerly seek a new treatment if the methods in common use hitherto yielded satis-

factory results. When the reaction comes, —as soon it must,—the confidence of the public in our therapeutical resources will therefore be severely shaken. In the second place, phthisical patients now are not satisfied that everything has been done in their behalf unless they have had their bowels *secundum artem* inflated with gas. If the judgment of the physician condemns this procedure and he refuses to employ it, he runs the risk of either offending his patient or seeing him go to the specialist of the syringe, whose scruples do not interfere with his practice. Would it not be well if our medical societies would take up the ethics of this practice for consideration?

SO-CALLED SURGICAL SCARLATINA.

SINCE Paget in 1864 called the attention of the profession to the scarlatinoid eruptions which occur after injuries and surgical operations, these exanthems, long before observed and occasionally referred to in medical literature, have been the subject of especial study. In England, Jonathan Hutchinson, Hilton, Bryant, Sterling, Goodhart, and others; in France, Trélat, Germain Sée, and Tremblay, have reported cases. In this country, Atkinson made these rashes the subject of an admirable paper read before the American Dermatological Association last year. This observer regards the following conclusions as justified by the facts thus far accumulated:

1. Unprotected persons who have suffered injury or have undergone surgical operations are rather more liable to scarlatina than the unprotected healthy. This increased liability is probably due to diminished power of resistance to disease, and will probably hold with regard to other specific fevers. Scarlet fever is more apt than the other exanthemata to attack such persons, because its influence is usually more wide-spread, and because it varies within such wide limits that it often escapes the attention of those who readily detect other infectious disorders and provide against them.

2. When an epidemic tendency on the part of these eruptions to prevail after injuries and operations is shown, it may be concluded that true scarlatina is present.

3. Septicæmia is occasionally accompanied by a scarlatiniform rash which does not depend upon the scarlatinal poison.

4. Medicinal eruptions, especially those caused by cinchona and its preparations, not infrequently follow injuries and operations. These rashes are often erroneously attributed to true scarlatina and septicæmia.

Quite recently, Hoffa, of Würzburg (*Volkmann's Klin. Vorträge*, No. 292), has gone over the whole subject with great care, both from the clinical and from the bacteriological point of view. He concludes that if the term surgical scarlatina is to be retained at all, it must be restricted to those cases in which the scarlatinal infection has actually taken place by the way of a wound, and that all the other forms of erythema occurring after injuries and surgical operations, which have nothing in common with scarlatina but their color, and which comprise a very large group of the cases, must be designated according to their etiology. In the absence of the concomitant symptoms of scarlet fever, isolation is not required.

THE MECHANICAL TREATMENT OF LUMBAGO.

IN no class of cases is the aid of physiological or so-called mechanical therapeutics more welcome to physicians than in the treatment of chronic muscle- and joint-affections, which are the despair of ordinary therapeutics. Massage, hydrotherapeutics, gymnastics, have a field of usefulness that is second to none in the

relief of disorders of nutrition. It is with pleasure, therefore, that we direct attention to a lecture* which we have just received, in which the successful treatment of lumbago by systematic exercise is demonstrated, and descriptions with illustrations of the simple forms of apparatus employed are given. Dr. Schreiber claims that his experience has shown that every case of lumbago, acute as well as chronic, can be completely cured by mechanical treatment. On the contrary, rest and antiphlogistic applications intensify the affection, increasing the pain and the functional disorder. The apparatus required for the treatment is easily made, and the want of it should not be allowed to interfere with a trial of this method in any given case. Of course the tendency to return will remain, but it cannot become developed if the ordinary means for the prevention of so-called muscular rheumatism are employed by the patient. Among the prophylactic measures of most value we may name due attention to the renal functions, systematic exercise, and the wearing of the abdominal flannel bandage, or "cummerbund," which we have found especially useful.

As some cases of myalgia have been shown to be due to trichinosis, it is important that in any given case a correct diagnosis shall be made before promising the complete cure which Dr. Schreiber assures us from his mechanical treatment.

Professors Nathan S. Davis, M.D., of Chicago, Dudley S. Reynolds, M.D., of Louisville, Kentucky, Henry H. Smith, M.D., of Philadelphia, and Dr. W. S. W. Ruschenberger, formerly Medical Director of the United States Navy, had the degree of Fellow of the Medico-Chirurgical College conferred upon them by the Trustees of that institution at the annual commencement, held in Philadelphia April 7.

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* "Die Mechanische Behandlung der Lumbago," von Dr. J. Schreiber, Aussee-Meran. *Wiener Klinik*, März, 1887.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

Surgical Clinics at the Hôtel-Dieu.—Professor Reclus, the eminent surgeon and eloquent speaker, has been giving a series of very interesting clinical lessons on the usual subjects, and also on some that are new and original. These are so well worthy of attention that we can only regret not being able to communicate them in full; but we will try to give the substance of a few of them. First, we may report one on

Molluscum Fibrosum of the Ano-Rectal Region.—He said that the group of tumors of this region called syphilitic, or condylomata, seems on the increase, and if one does not consider them hemorrhoids, polypus, or cancer, he is apt to regard all these cases as syphilomata. He had observed four patients lately in whom it was impossible to make this specific diagnosis from the history, and so he proposes to class them apart and call them "Molluscum Fibrosum." Professor Fournier, speaking of ano-rectal syphilomata, said that the tumor is characterized by a rigid thickening of the intestinal walls, and that this hyperplasia may be as much as ten millimetres in thickness. The mucous membrane is hard, uneven, and raised by vertical columns which invade the region of the sphincters, and which are replaced by a hard cylinder on the margin of the anus. This sort of tumor is indolent, dry, and hard, and is variable in form, while the growths are so regular that they have been called the "condyloma bouquet." This description is no doubt correct, and he holds syphilis responsible for these narrow, thick tumors which are combined with inflammation of the rectum; but he does not think that certain other tumors that are seen in this region are of the same nature: the latter are those Dr. Reclus ventured to name as above. They surround the rectal orifice in the form of a series of excrescences of different forms, some of them like the half of a pea stuck on the skin, and others larger, with a pedicle; others, again, are flat; but no ulceration is seen. Above the sphincter ani are two tumors as large as small cherries; their pedicle is large and long, allowing the neoplasm to leave the intestine during defecation. The margin of the anus resembles the Marguerite daisy with its petals spread out, while the centre is represented by the two polypus-looking tumors. These tumors obstruct the anal orifice, but the mucous membrane is normal; it is not ulcerated nor hardened, nor is the orifice narrowed, as the finger readily enters. The obstacle, however, is painful, and provokes an alternation of constipation and benign dysentery. It would seem from experience that these tumors often

follow a history of anal fissure and dysentery, though not of syphilis.

Dr. Reclus related one of the cases in full, and went on to say that the name of condyloma is an expression which is very uncertain, as it has been employed in so many different diseases. For some authors it implies syphilis; for others it simply means a sort of modified hemorrhoids. Therefore he has adopted the name of "molluscum" for these tumors, owing to their analogy to those of the skin, and both clinical facts and the pathological anatomy of these tumors warrant the name. They are in fact a sort of prolongation of the mucous membrane, soft, and either pendent or round, resembling an empty bag or a grape from which one has taken the seed. The prognosis is not serious, as they mostly remain stationary.

As to treatment, ablation is advised, or, if they are small, the elastic ligature,—both after local anæsthesia with cocaine; this to be followed by cauterization of the base after the tumor has been removed or has fallen off. If they are very large and inserted high up, a more radical operation is needed, such as rectotomy and destruction of the tumors with the thermo-cautery, or perhaps it would be sufficient to make forced dilatation of the rectum and burn them out with the heated platinum wire.

Cystic Disease of the Breast.—Under the name of "La Maladie Kystique des Mamelles," Dr. Reclus designates a cyst of the female breast which he has found to be quite a common disease, although until his writings in 1883 it was but little known; even now it has not reached the modern surgical text-books. Of course, cysts of the breast are extremely common; all the benign and malignant tumors may give rise to such sacs, and the pathological tissues may form cavities of which the volume and nature vary; but the above-named disease, although frequent, has not as yet received a special description.

This form of cystic disease presents two well-defined characters. First, the cysts are in large number and occupy the whole gland. In the usual cysts this is not so; on the contrary, they form a single cyst, which develops in the middle of a sarcoma or a carcinoma, and leaves the rest of the breast healthy. The second character of this newly-described disease is that it is bilateral, both breasts being attacked. It is well known that the other neoplastic growths are only quite exceptionally placed in both breasts. The following is one of the cases which he described: it will serve as a type of the others, of which so far some thirty have been observed.

A lady of 35 years consulted the Professor for a tumor which she found in her left breast, near the lower and inner portion. It was about as large as a pigeon's egg, round, and very hard, and it was difficult to isolate from the tissue around it. About this principal swelling a careful examination showed a number of small nodes, and these were found all over the gland, but in greatest number near the centre, which seemed full of them, like small lead-shot. Pressure gave no pain, and only from time to time was there a dull shooting ache in the gland. The ganglia in the axilla were healthy and not swollen. Broca, Verneuil, Terrier, and others have seen these tumors, and usually diagnosticated malignant growths, and have advised operation at once. The sensation of a number of little, hard portions around the central swelling, giving an idea of bird-shot, is peculiar to this disease. Operation has not been followed by a return of the tumors excised. Dissection of the removed gland shows it is full of cysts, some fifteen to thirty. In some cases the tissue around them was still strong and of the normal color and structure. The color of the fluid contents varies from yellow to coffee-color. M. Mallassez has made a careful histological examination of this tumor. Is it a benign disease? So far the clinical facts answer yes. One lady operated on some six years ago remains well, and others at various dates show no signs of a return; but the pathological anatomists seem to look upon it as malignant, and do not hesitate to pronounce it a form of true cancer, so that the prognosis must be reserved. On the other hand, the clinical facts lately caused Dr. Reclus not to interfere in a case of a young woman who has this disease in a slight form in both breasts, as he did not like to extirpate both breasts, which he felt was the only radical cure.

While on the subject of breast-tumors, we would like to direct attention to the fact, as shown in this clinic, that these glandular tumors may very often be extremely hard, even wooden in feeling, and without fluctuation, and yet not be malignant in character. To determine the nature of such swellings, it is always best to introduce the needle of a small hypodermic syringe and draw off a little of the contents. This operation is painless as a rule, and innocent if the needle be made aseptic by heating it first, while it will often surprise the operator to find the supposed tumor to be simply mastitis or some much slighter form of disease than he feared, no matter how hard it may seem at first.

Tuberculous Infection by the Genital Passages.—Dr. Reclus said that ever since tuberculosis has been classed with the contagious diseases which are inoculable and parasitic in character every one has tried to determine the road that the bacilli take in penetrating the tissues. These *portes d'entrée* must be numerous, including all the solutions of continuity, both traumatic and ulcerous, of the skin, all loss of substance, and all the epithelial desquamations of the digestive and pulmonary tracts. These modes of invasion can-

not be denied since the hypodermic injections made by Professor Villemin and the experiments of Chauveau upon the injection of tuberculous matter. Can this figured element, the bacillus of Koch, also penetrate the organism by the genital passages? Cohnheim and Verneuil asked this question in 1883, and Dr. Charles Fernet has read several papers before the medical societies in late years in which he tries to establish the proposition that primitive genital tuberculosis can probably be caused by direct contagion in sexual intercourse. Professor Reclus asks, Is this possible? Ought we to accept this doctrine without question? Primitive genital tuberculosis undoubtedly exists, as Cruveilhier, Velpeau, and Reclus have given statistics to prove it. In some thirty recent cases on which autopsies were made, pulmonary tuberculosis and the genital form existed in twenty cases, but in the other ten the lesions were found *only* in the sexual organs. The question is, Can these last cases have a local origin? Can it be communicated as in syphilis for instance, where the sexual organ which is infected contaminates the sexual organ that it penetrates or is penetrated by?

M. Verchère, in a late thesis, and M. Fernet both bring up observations trying to prove the affirmative, but in fact their cases only show one thing, and that is that caseation of the sexual organs can be primary; but they do not in any way prove that the hypothesis of direct inoculation by the genitals is correct, while M. Reclus brings a number of cases to prove the contrary. One of these observations was that upon an infant whose epididymis was found infiltrated with tubercular formation. Verneuil also relates such a case. Lloyd saw the cheesy tubercles in a child of three, Dufour in one of eighteen months. Giraldès adds that in children from six to twelve genital tuberculosis is not at all rare. Professor Guyon also found it in female children. It cannot be pretended that at these ages coition is practised.

To return to M. Reclus's statistics: two of his phthisical patients never had had sexual connection; five others were married, but their wives had not been inoculated from their husbands' genital caseation. To pass by the clinical facts and follow Cohnheim and Fernet in their hypothesis on this form of infection, one must admit that Koch's bacillus exists in semen, which is not at all proved, although it is stated that it has been found in urine. In any case, this inoculation should take place in the vagina or at the mouth of the uterus, and it is well known that tubercular ulcerations are extremely rare in those situations, for it is mostly the mucous membrane of the uterus itself and the ovaries that are attacked. M. Reclus cannot believe that the poor, ill spermatozoid can travel so far as this, for it is said that the white globule when infiltrated with germs loses its amœboid movements, and it must be the same for the figured element of the sperm: so tubercular metritis, salpingitis, ovaritis, etc., can hardly be caused in this way. In men's inoculation by women the conditions are not even so favorable: the great length of the urethra from the glans to the parts usually infected, and the fact of frequent passage of urine cleaning out any stray bacilli that may have wandered in, oppose this idea. There is only one possible theory, and it applies to all cases and explains the tubercular affections of children as well as those of adults and very old people; also the lesions found in the spleen, liver, brain, eye, articulations, and bones.

We first must admit that the bacilli penetrate by some fissure in the skin or by some loss of substance from ulceration of the respiratory or digestive tract. They may stop at this point and form a colony; but mostly they get into the vessels, and are carried on either by the lymphatics or the blood itself, and they enter no doubt in the state of spores, for the anærobic bacilli cannot live except in globules charged with oxygen. Sometimes they leave the circulation, owing to the rupture of some vessel which pours them into the web of the tissues, or else the leucocytes carry them out with them by diapedesis. They are often sterile, or at least they fall into the middle of vigorous anatomical elements that are able to defend themselves against these attacks; but should the tissue in question have the slightest taint or organic fault, an active proliferation takes place at this point, which becomes the seat of primitive or primary tuberculosis, that may remain local, or, later, invade other parts of the organism.

Chlorate of Potash in Cancer.—We must mention, in closing this account of M. Reclus's clinics, that some very remarkable results are being obtained there in the treatment of cancer by chlorate of potash. The matter is still under investigation, however, and it will most likely be treated upon at length by the professor before long, when we will give further details.

Professor Potain on Treatment of Reflex Disturbances of Gastric Origin.—"The different forms of gastralgia determine quite often a series of troubles that should be well understood in order to treat them rationally. Among the organs that are most often affected are, first of all, the heart and the lungs. It will be readily understood that the distention of the stomach after a copious meal can push up the diaphragm, diminish the capacity of the thoracic cage, and interfere with the functions of the organs which it contains, while at the same time the large quantity of liquids thrown into the circulation during digestion fills up beyond measure the circulatory system, and forces the heart into an excess of work which it cannot attend to. One can also well be-

lieve that these disturbances have a chemical origin. All know that the stomach is a vast manufactory where a number of chemical products are produced. When digestion is normal and regular, these substances which it gives birth to have no disturbing action, as they are absorbed and act exclusively in repairing the losses of the organism; but if the digestion be abnormal it permits the absorption of substances which are not fully elaborated, and which are sometimes toxic: such are the leucomaines. Dilatation of the stomach with paresis of its muscular tissues, which has been so well shown by Professor Bouchard, is also a powerful cause of this defective elaboration of the alimentary products, and this has for effect an irritability of the nervous system which produces the reflex phenomena which your dyspeptics will complain of so often. A third and most important cause is the reflex influence exercised by the mucous membrane of the stomach by contact alone of the aliments. The appearance of phenomena at the very moment of ingestion of food in small quantity, before any fermentation has taken place, is of itself quite sufficient to prove this and demonstrate the reality of the influence. The appearance of the reflex pains should not surprise us, as they are first of all quite normal. The tension of the blood is augmented by the liquids of digestion which are thrown into the circulation, and then these in a reflex way give notice, as it were, to the system to receive an influx. All have noticed the redness of the face that accompanies digestion. This is caused by the dilatation of the peripheric vessels to receive the overplus of liquid in the circulation. Suppose, then, an exaggeration of this normal reflex, and then that it should extend to the brain. Migraine, amblyopia, and vertigo would be among the consequences. If it goes to the lungs, then the respiration is interfered with. These normal reflex actions can be diminished as well as augmented. For instance, they are not seen at all when the mucous membrane is the seat of serious lesions, such as ulcer of the stomach, cancer, etc. In regard to the direction that these reflex pains may take, there must be an individual predisposition, either congenital or acquired. Each us of has certain parts of the body more sensitive than others, a *locus minoris resistentiæ*, and it is this point that first comes under the influence of the reflex. Some of these manifestations can be ranged under those inhibitory acts which have been so much spoken of since they were indicated by Brown-Séquard. Take the case of a man who loses his memory in the middle of a meal, and another who after a good dinner becomes impotent, and so on: inhibition can explain but few of these phenomena, for the larger part of them depend on vaso-motor disorders, and these, again, may affect either the vaso-constrictors or the vaso-dilators: indeed, it is a delicate question, often, to say which, in any given case. But as to treatment of these painful maladies: as they are caused by the stomach, its treatment is first of all to be attended to. If the pathological irritation be produced by the presence of some vitiated secretion or badly-digested aliments, then use emetics, washing of the stomach, or purgatives. The alimentary régime is important: order little and often of very digestible substances, and no large meals at any time; watch out for the dentition, as many dyspeptic accidents have as a cause insufficient mastication; give in certain cases milk only as food, to diminish the excitability of the gastric mucous membrane, and absorbing powders, such as prepared chalk, charcoal, phosphate of lime, etc. As the nervous system is often at fault, bromides are suggested, but they are often badly supported by the stomach. They can, however, be used per rectum, in which case hydrobromate of ammonium is the best. One gramme of this salt in a half-pint of water may be injected twice a day, and it will give great relief. Where there is a tendency to nervous depression, valerian in large doses is to be preferred. When the suffering is very intense, for a few days hypodermic injections of morphine hydrochlorate may be used. Then, as to the organ in which is the seat of reflex pain, there is no reason why local medication, by derivation or refrigeration, should not be tried, combined with repose; also the cramps of the calf of the leg may be treated by friction or massage. Pains resembling those of angina pectoris can be cured often by simply putting the hands in warm water, or by giving saturated chloroform-water internally; but, as a rule, great care must be taken not to give preparations of digitalis (which are so often employed for palpitations that are of gastric origin), for this is almost always useless, and it will not calm the pains; most of you know that real heart-pains do not exist. Digitalis may, however, be used in those serious cases of gastric origin where the cardiac dilatation has attained a high degree and it has lasted for a long time; but even here it must be used with caution, much more so than when it is given in heart-diseases which are primarily endocardiac."

When is the Proper Time to give Medicines?—Professor G. Sée made some practical remarks at his clinic to-day that are quite different in some respects from the teachings of the books, and also from custom; but, as they are the results of his nearly forty years' experience in hospitals, they can be followed with certainty. "When is the exact moment to give drugs so that the system will best accept them? There are a few that may be given any time you like, but these are the exception."

Cod-Liver Oil.—"What causes absorption of this oil? The action of the pancreatic and hepatic secretions. Given fasting, it will

most likely cause vomiting, as the juices are not present; for secretion only commences when there is something in the stomach. Children take it well, and the reason is that in them the sense of taste is imperfect. It must be given, then, so that it will pass quickly on to where it can meet the pancreatic juice: so give it *at meals, just after taking soup;* and it can also, curious to say, be well digested without any 'returns,' if taken the last thing at night on going to bed. Cod-liver oil contains fatty acids, more so than any other oil, and absorption proceeds better with it, as an emulsion is not so much needed as in other oils."

Emetics.—"When the intention is to have only mucus vomited, give these fasting; but in indigestion, etc., exhibit *after* eating, so that there will be something to vomit."

Purgatives.—"Here there must be a division. Carlsbad, Hunyadi János, and such like purgative waters should be given at once on rising, and always in *hot water*, to precipitate the elements; if given cold they are often vomited. Magnesia salts, on the other hand, require time, and should be taken at night. Next we come to purgatives that must *never be given fasting:* these are the drastics, such as jalap, aloes, etc." (Here Dr. Sée tells a funny story of his young days, when patients were few and far between, and he got one to whom he ordered a compound aloes pill, with other things, and ordered it to be taken before each meal, with the result that the unfortunate patient had a vomiting-fit each time, and sent at once for the doctor's bill and requested him not to call any more.) "These, then, should be given 'in the middle of a meal;' don't say *during*, for, like *before* a meal, many people want to know the exact moment, and don't understand if you mean an hour before meals or at meals: so be very precise."

Mineral Waters.—Dr. Sée condemns the usual custom of putting these into the wine which is drunk at table, and he says they spoil both the wine and the digestion. He calls attention to the fact that at Vichy, and all the mineral-water stations, the water is always given fasting and some time before a meal. The object being to increase the secretion of the gastric juice, they must be given before meals,—and not just before, but *at least half an hour before.* Vichy, administered in this way, gives better results than when it is used to turn red wine into a sort of ink.

Bitters, cinchona wines, etc., are what are called tonics, on account of the tannin that exists in them: these and acids should be taken *just at dessert*, when the meal is almost over; certainly never before meals.

Iron.—It will precipitate the gastric juice taken before meals, therefore take it when there is something in the stomach to prevent this. It is not known how it gets into the circulation, because it is not seen to go out. In any case, give it *with meals.*

Pepsine.—In supposing that there is some virtue in pepsine, which has not been proved, it should be given just at the end of a meal to assist the digestion of it.

Antiseptic Powder as given for Intestinal Antisepsis in Typhoid Fevers in Paris.—

℞ Naphthalin.,
Pulv. sacchari, āā 5 Gr.;
Ess. menthæ, 2 gtt. M.
Div. in chartulas No. xx.
S.—Give two to four papers per day.

THOMAS LINN, M.D.

PARIS, March 28, 1887.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA NEUROLOGICAL SOCIETY.

FEBRUARY 28, 1887.

(Continued from page 487.)

DISCUSSION ON MORAL IMBECILITY.

DR. H. C. WOOD: Whether we call these cases examples of moral imbecility or give them some other name, we must recognize that there is a depravity which is the result of heredity or some imperfect development of the nervous system. I recently had under my notice a case which parallels those reported by Dr. Kerlin. A woman belonging to a respectable family went astray at a very early age and became the mistress of a married man, bore eight children, and died a drunkard in the gutter at the age of twenty-eight. Of the eight children, all, with the exception of one, perished in infancy. At the death of the mother, this child, a very young girl, was taken by a friend, who endeavored to train her in a respectable manner. The attempt seemed to be successful until the age of thirteen was reached, when, three months before the appearance of menstruation, she ran away and was found in a house of prostitution. Since then her history has been a constant effort to save her and a constant return to bad sexual habits. It finally became necessary to place her in the House of Refuge. There was no tendency to drink in this instance, so that the love of liquor had no part in the precocious, overpowering sexual desires.

Dr. E. N. BRUSH: I was much interested in the graphic description of these cases. I had the opportunity of seeing one of them at the institution at Elwyn. The history of the young woman brings to mind a case which had gone, as Dr. Kerlin says they may do, a little farther. The girl not only became a public prostitute, but had passed into a condition of marked insanity. The mental disturbance was as

much in the line of moral obliquity as anything else. She was very active in causing mischief among the attendants and other patients at the asylum. At one of the visits of a committee of inspection she trumped up a story that the engineer, the apothecary, and one of the physicians had come to her room at night and violated her person. She got one old gentleman very much interested in her case, but before he got through with his investigation she disgusted him by making a similar charge against him.

Dr. CHARLES K. MILLS: I believe that the term moral imbecility is a good one to apply to a certain line of cases, as it has a distinctive meaning. From my experience outside of institutions I could give at least a score of cases similar to those described by Dr. Kerlin. Some of these cases have been in asylums, some have been in prisons or houses of refuge, and some have been in both. I recall one case, now in the Eastern Penitentiary, which has been in three asylums and in three or four penal institutions. A case recently sent to the Pennsylvania Hospital for the Insane by Dr. Wood and myself presents some of the elements which have been mentioned by Dr. Kerlin,—some of the peculiarities seen in the first case reported by him, although not to the same degree. In addition, she had actual spells of mental excitement, possibly a mild form of mania. In the case of a boy recently seen, as in this case, there was a distinct history of neurotic conditions and of insanity in other members of the family. Almost all cases of this kind show a marked element of heredity.

As I have stated, I am a believer in moral insanity as I understand the term, although I do not consider this term a good one, especially for medico-legal purposes. I have been asked on other occasions to produce the cases. Dr. Kerlin has produced four to-night. I think that the members of this Society could bring forward a large number of other cases. The question is not whether or not these subjects have any intellectual aberration at all, but whether or not the moral aberration vastly predominates. If so, the cases should be classed under moral imbecility or moral insanity, whether or not these terms are the best for technical purposes.

Dr. JAMES HENDRIE LLOYD: I unfortunately heard only a small portion of Dr. Kerlin's paper. I think that in the discussion of this question, especially in its practical bearing upon the cases that come before the courts, medical experts are in danger of confounding depravity with insanity. There is a decided distinction between these two. I have always maintained that the mere metaphysical abstraction of moral insanity was an unphilosophical one. Practically we never find a case of a pure moral lesion. There is always an intellectual defect, and frequently a marked congenital defect of the whole brain-organization. We unfortunately know very little of the physical basis of thought, and, until we do know more about this, it seems to me that it is futile to try to make abstract distinctions between moral insanity and depravity. This tendency was probably inherited from the pseudo-psychologists who combated the idea of Locke in regard to the action of the human understanding. I myself do not believe in true moral insanity. In the last case reported, if there were no evidence of mental defect it seems to me a misnomer to call the boy an imbecile. If the boy was full of depravity, and if he had committed a crime, it would be difficult to acquit him before an intelligent jury. I suppose Dr. Kerlin would not claim that he was without intellectual defect.

Dr. FRANCIS X. DERCUM: I think that Dr. Lloyd is correct as regards the unphilosophical character of the term moral imbecility or moral insanity as used in the *abstract* sense. At the same time I can conceive of cases such as Dr. Kerlin has reported. As man ascended from the savage state, the moral faculties were the last developed. Their highest development is inseparably connected with the more intimate social relations demanded by civilization, and is therefore of comparatively recent origin. Now, I can conceive of a child in whom the reasoning powers and the other faculties were developed to an average degree, just as in the savage, and in whom the moral faculties were undeveloped. I believe that in these cases there is a structural and incurable defect,—a morphological defect.

Dr. HARRIET BROOKE: There is in the Woman's Insane Department of the Philadelphia Hospital a young woman, sixteen years of age. She is intellectually very bright. She works efficiently about the ward, and visitors are surprised to learn that she is insane. She has, however, a most violent temper, she steals, she is untruthful, she is cruel, and, when she is crossed, becomes so violent that she takes anything within her reach and throws it at those around her. At such times she is perfectly irrational. When brought to the hospital by her mother and her sister, the latter volunteered the statement that on the father's side there was no insanity, but that the mother of the girl was the only one of the mother's family that was not insane. The sister had herself been insane twice. This case seems to belong to this group of moral insanity.

Dr. ISAAC N. KERLIN: We will be more grateful to Dr. Lloyd if for the terms moral insanity and moral imbecility he will give us expressions defining any better the conditions which we find in a large percentage of so-called feeble-minded persons in many of the commitments to houses of refuge, and in a larger proportion still of those found in such institutions as the Reformatory at Elmira, New York.

Is not the difference between those who argue for and against moral insanity a disagreement about a name, rather than about the existence of a condition accepted by most Germans and many English writers on psychiatry, and supported by Ray, Spitzka, Bannister, and many others in America?

During the past few years there seems to be a growing advance in sentiment among our profession and in the public mind with reference to this subject. Seven years ago a paper read at Lincoln, Illinois, reporting several cases of moral imbecility under the title "Juvenile Insanity," was so thoroughly misunderstood that a discussion followed showing that the gentlemen present had applied the phenomena of *excitable idiocy* to the suggestions of the paper. The idea of a congenital incapacity to receive and act upon moral impressions in any other than the lowest grades of intellectual idiocy was not comprehended. Two years ago I wrote to the non-medical superintendent of one of our houses of refuge, sketching a few of our moral imbeciles, and asking if there were cases corresponding with these in that institution. The question was studiously avoided by that gentleman until an experience had with a case recently sent to him from our Elwyn institution, whereupon I received an ample reply confirming the impression I had formed. A medical officer of the same refuge, within the last few days, examined critically the inmates of the latter institution, and is of the opinion that not a few are moral imbeciles. Dr. Brockway, of the Elmira Reformatory, states that he discovers among his prisoners only six per cent. in whom the moral sense is normal. He prefers to speak of many of his cases as moral imbeciles. It is true that we are using this term for the want of something better; but it certainly defines to the common understanding a class of individuals in whom there is a lack of self-control, a weak volition, and failure in, if not an absence of, the higher elements of a full cerebral development, for which we know no more suitable appellation than moral imbecility.

Adopting these views, their practical application soon comes, in a sequestration of many whose liberty now is only a vicious license. The tendency at our own institution is towards life-detention of all such cases. We refuse for them the ordinary routine of education, because we believe that in educating moral imbecility after the current notions of education we are training experts who may afterwards figure in the rôle of so-called moral insanity; that by giving such subjects any considerable *school* education we are only arming them for more serious exhibitions of evil. It is a radical, often inherited, condition, just as incurable as inherited forms of idiocy or intellectual imbecility. When we shall arrive at this definite conclusion about cranks, habitual drunkards, and the like, and fully apply it, and when we introduce the indeterminate sentence for crime, such sequestration of the morally and socially unfit will be brought about that our human stock will be improved by keeping out of the national blood some terribly bad strains.

It is a noteworthy fact that in most, if not all, the cases which we have determined to be moral imbeciles, there is a neurotic history in the family antecedents; epilepsy, monomanias, inebriety, crime, are frequently the correlative exhibitions in families from which proceed these children of keen intellectual precocities, but inveterate tendencies to vagrancy, prostitution, and lawlessness.

Dr. JAMES HENDRIE LLOYD: With reference to inventing another name for moral insanity, I would say that I do not believe that the condition exists, and therefore I cannot name it. In the last case described by Dr. Kerlin I believe that there is something more than a moral defect. There is something wrong with the intellect. The term moral insanity I consider a misnomer. Guiteau was said to be the subject of moral insanity. The name that I should apply to him would be criminal. As I did not hear the paper, I do not wish to be considered as criticising it. I refer to the subject in general, especially as it concerns the insane and those who are claimed to be insane.

Dr. CHARLES K. MILLS: Dr. Kerlin in his remarks very clearly brought out the strong points in this question; but I believe that Dr. Lloyd's remarks show that he is astray as to the origin of the facts which some of us have been studying. There may be some who believe in this moral imbecility or moral insanity from the stand-point of the pseudo-psychologist, but I do not know these false theorists. The point that I make is this: that Dr. Kerlin, who for twenty-five years or more has been among idiots and imbeciles, and who has studied them in the concrete,—who has seen scores or hundreds where others have seen units,—has come to his conclusions from a different stand-point. Another point in Dr. Kerlin's remarks was in regard to the question of control. Perhaps the very best legal criteria of responsibility that have ever been given are those formulated by Sir Fitz-James Stephens. Among these, certain have reference to the ability to distinguish between right and wrong, not only in the abstract, but in the particular instance; and a higher criterion, which is gradually coming to be included by others,—namely, that a person who does a homicidal or criminal act has lost the power of controlling his actions. I believe that some of his acts are just as much beyond the control of the moral imbecile as are the acts of the hallucinatory lunatic who cannot resist doing that to which he is bidden by a hidden voice. I believe that any one who studies closely many of these cases will come to the same conclusion.

The next paper, by W. A. WILMARTH, M.D., Assistant Superintendent of the Pennsylvania Institution for Feeble-Minded Children, was on

THE PATHOLOGY OF IDIOCY.

The following is an abstract of the paper:

The literature of idiocy consists of scattered reports of post-mortem examinations in institution reports and incidental notes in treatises on disease of the nervous system. I have drawn the material for this evening's paper largely from our own post-mortem records, illustrating the cases presented by photographs and actual specimens of lesions and malformations described, and introducing such facts as I have been able to glean from the above-mentioned sources.

Among the causes which may produce mental defect may be mentioned destruction or non-development of a considerable portion of the cerebral cortex; absence or destruction of important commissural tracts; destruction of the organs of special sense or of their ingoing tracts, preventing the reception of impressions from without; disease of the cerebral vessels, with consequent interference with the nutrition of the ganglionic cells, so necessary for their proper functional activity; atrophy and hypertrophy of the brain, and pressure from cerebral effusion.

ANALYSIS OF FORTY CASES.

Anomalies of the Skull.—Hypertrophy of the skull was seen in five instances, while the bone was unusually thin in three cases. Deformity of the base, especially about those portions of the ethmoid and sphenoid bones which go to make the base of the skull, exists in nearly all congenital cases. This is regarded by Ireland more as a proof of misdirected formative power than as bearing any distinct relation to the mental hebetude.

Adhesion of the membranes, with or without apparent thickening, and varying in extent from a very small localized area to a complete adhesion, exists in forty per cent. of our cases. The post-mortem records at Longenhagen, Hanover (thirteen cases), describe this lesion as existing in 84.6 per cent. of cases.

The average weight of the forty brains was thirty-seven ounces; of the cerebrum, thirty-one ounces; of the cerebellum, 4.40 ounces; of the pons and medulla, a little less than one ounce. The weight of the cerebellum bears a relatively high proportion to the weight of the cerebrum, but bears no relation to the mental state of the individual. Whenever early and extensive paralysis had existed, the cerebellum was generally small.

The frontal lobes very generally appear small, especially in cases of the congenitally feeble-minded. This is evidenced by the short proportionate length of thin lobes measured along its superior border, and by the frequent exposure of the insula by the imperfect development of its lower convolution.

Defect of the commissural system is common. In the corpus callosum it was found in three instances; in the middle commissure in four cases. The posterior and optic commissures were absent in one case.

Irregular arrangement of the fissures and convolutions, consisting of a decided departure from their usual plan, is occasionally seen; confluence of the principal fissures, and more frequently still of the secondary fissures, is common. In about ten per cent. of our forty cases a strong tendency of the fissures to assume a vertical position is shown; the Sylvian or superior temporal convolution may be prolonged to the superior border of the hemisphere, or long, deep fissures may be found in unusual places, where all the fissures whose natural direction is vertical become strongly marked. All these appearances are most marked in children of a low grade of intelligence, and may probably be regarded as an evidence of misdirected formative growth. In two cases of "Mongolian" type of imbeciles the cerebrum in each case was found well developed in its relative proportion, the cerebellum smaller than usual, while the pons and medulla reached only about half the usual weight. No microscopic examination has as yet been made.

General atrophy was found in one case, and internal hydrocephalus with flattening of the convolutions from internal pressure in one instance.

Among the *microscopic appearances* found in idiocy were relative sparseness of ganglionic cells, disproportionate thickness of the outer barren layer, and the presence of nuclear bodies surrounded by a little granular protoplasm, and contained in clear, round spaces in the neuroglia, described by Spitzka. Degenerated and abortive ganglionic nerve-cells, increased density of the neuroglia with abundance of small round cells, thickening of the walls of the blood-vessels, which are sometimes dilated in places, again contracted or occluded. Sclerosis of all degrees of progress. Atrophy of nerve-fibres of the white substance. In at least three cases such destruction of the ganglionic cells in portions of the cortical substance, with condensation of the connective tissue, and in one instance deposit of crystals from absorption of effused blood, that it seems doubtful if any functional activity remained in the affected parts.

Specimens were shown illustrating atrophy of convolution from pressure of bony plates in the dura mater, with malformation of occipital lobes; destructive lesion of frontal lobes, with non-development of the insula and other portions of the hemispheres; also a microcephalic brain, with arrested development of convolutions and general atrophy; another, a fairly well formed brain from an idiot of the lowest grade, where apparent non-development of the cortical substance of portions of both hemispheres existed.

DISCUSSION.

Dr. FRANCIS X. DERCUM: This is certainly a remarkable and interesting paper. I notice that in one of the specimens sent around there is a convolution which I have not seen in any of the brains which I have examined, and this is the inferior internal *pli de passage*. This brings to mind a speculation of my own. It occurred to me, Why should we have a convolution such as the internal *pli de passage?* It is found in monkeys of low grade. Why should we find this convolution recurring in the human brain? It seemed to me that if there be some inherent defect in the power of development of the cerebral vesicles, that defect must make itself most manifest along certain lines. Thus there will be a tendency to absence of certain portions. This defect would be made more evident if the cranium ossified too soon. In such case we should expect the appearance of transverse and perpendicular fissures corresponding to what is found in the brains of monkeys. The question then arises, Why is it that we have ape-like convolutions present? It seems to me that if any one part be suppressed, the brain being a balanced whole, some other part must be developed, and, therefore, ape-like convolutions are necessitated by ape-like fissures.

Dr. CHARLES K. MILLS: The work at the Pennsylvania Institution for Feeble-Minded Children is of great value, not only for what it is, but for what it will lead to and suggest. I have always said that as much can be done towards settling the problems of localization in an asylum for idiots as by experiments on animals or by any form of experimental work, although I do not by any means disregard the value of such experiments. The facts brought out in a general way by this paper show the possibility of our eventually getting at a wider and fuller differentiation of the faculties or so-called faculties of the brain beyond mere motor and sensory localization. As Dr. Wilmarth referred to Dr. Benedikt, it may be interesting to state that about eight months ago I received a letter from Dr. Benedikt, in which he says that he does not advocate the idea that there is an absolutely fixed type of criminal brain, but his observations tend to show that peculiarities of fissures and convolutions occur in low-type brains, and special peculiarities in certain cases.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

A STATED meeting of the College of Physicians was held March 2, 1887, the President, S. WEIR MITCHELL, M.D., in the chair.

DISCUSSION ON DR. RANDOLPH'S PAPER (page 502).

Dr. S. WEIR MITCHELL: The remark that with fatigue comes an increasing tendency to convulsive or useless acts of facial or other muscles is interesting. It seems to show that with feebleness comes increasing waste by overflow of motor energy on to distant ganglia. Perhaps in all states of weakness there is more or less of this tendency. Admitting the accuracy of Dr. Randolph's facts, their explanation is difficult. It may be that the overflow of energy on to symmetrically related centres, or on to others, is competent to weaken them without being strong enough to cause motion; and whether this occurs as regards the opposite hemisphere, or only as regards opposite spinal centres, is hard to say.

(As an illustration, we may by a key close the current of two batteries, A and B, each competent to set in motion a mechanism. Resistances on the one circuit, A, so interfere as to lessen the flow of energy below what will move the mechanism. Meanwhile, the other battery, B, runs to exhaustion. At last we call on battery A for a repetition of the full work done by B, and find A unable to effect the same work as that done by B, on account of having been partially disabled by its previous ineffective waste of energy.

We are free to speculate as to the relative failure of one hand, the last in use, as due to there being but one centre originative of will-signals to the lower ganglia, and itself capable of fatigue. If, however, we entertain any such view, it might be in a measure tested by exacting work from a non-symmetrical pair of limbs, as a foot and hand.

I incline towards the use of the overflow theory to explain the lowered capacity for work by one hand after exhaustion of the other. It would explain why in consentaneous use of two symmetrical parts more work is done than when they follow one the other. The overflow would be in this case valuable, and not damaging or wasteful. This leads me to relate an experiment which Dr. M. Lewis and myself left out of our paper on knee-jerk, but of which I am now sure enough to speak. When we use the maximum power of one hand on a dynamometer, the coinstantaneous use of the other hand adds nothing to the result; and this form of experiment has been commonly used as a test of the reinforcing capacity of the opposite member. If, however, using two fingers or the grip of the thigh adductors on the bulb of a mercurial dynamometer until great exhaustion occurs, and we then make a new effort at the moment of violent use of another member, the mercury leaps quite to the level attained during the first effort by unfatigued muscles. It does not seem easy to explain this fact except by assuming that the overflow of energy usually wasted is in this case made efficient.

The question of muscular, and indeed of ganglionic, tone is brought forward in an interesting way by this experiment. When we strike the patellar tendon, a sudden, distant,

voluntary act adds reinforcement. What is it that happens to the muscle or ganglion so influenced? Is it made more sensitive to impressions, or with this is there a slight flow upon it of motor energy? And if so, can we measure the effect, and thus influence what we conceive of as muscular tone?

For some time I have been engaged in discovering if these reinforcements do cause motion,—*i.e.*, a slight preparatory muscular contraction, making the subsequent volition or other excitatory activity more potent in its results.

I have been able so far to prove that in some spastic cases distant muscular effort, such as a grimace, really causes distinct and measurable movement in the extensors of the thigh, and presumably elsewhere. This interesting discovery has been confirmed in New York and at Harvard. Whether in *normal* man remote motion is thus capable of causing slight shortening of all other muscles does not as yet seem clear. In my own experiments I obtained what seemed to be the same but slighter results than such as were seen in spastic paralysis, and hope very soon to solve doubts and to be able to state my conclusions in more decisive shape. Upon what these may be will depend much of our hope as to realizing clearly the true nature of muscular tone.

We often speak of nerve-power as if there were a common stock from which are drawn the supplies needed by every active organ, and reason that it is unwise to try to carry on at once two functions which exact large expenditures, as digestion and intense thought, or digestion and exercise. Practically, the difficulty may be one chiefly of blood-supply. This is illustrated in the not rare fact that some feeble people cannot digest except when at rest. These facts suggest the idea that perhaps Dr. Randolph's cases would lose ten per cent. of mechanical capacity after a period of exhausting mental labor or during digestion.

Dr. H. C. Wood: The old theory which was used to explain the principle of counter-irritation was that there is a certain amount of nerve-force in the system, and that when, by means of counter-irritation, the nerve-force is drawn to a distant point, it is removed from the inflamed part. Modern science does not recognize the truth of this theory, but it looks to me as though there is a certain amount of truth in it. Every one who has worked in a gymnasium will recall the fact that he cannot use the two hands simultaneously with the same force as he can when the two hands are used separately. A man who can put up a fifty-pound dumb-bell with the right hand and a fifty-pound dumb-bell with the left hand cannot at one time put up a fifty-pound dumb-bell with each hand. This shows some relation between the nerve-centres which we have not as yet gotten at. Dr. Randolph's contribution is an important one looking towards a final solution of this question, but I think that it has not gone far enough to enable us to form any theories with sufficient grounds on which they may rest to hope that the theories are correct.

I believe that when we use our muscles vigorously two kinds of fatigue are produced. There is a local fatigue and a general fatigue. If a man uses the right arm vigorously, he fatigues not only the right arm, but also the whole body. I believe that if these investigations are continued it will be found that after prolonged use of the leg there will be loss of power in the arm, perhaps as great as after previous use of the other arm.

Of course there is a temptation to speculate upon these facts, but the matter must be carried further before speculation will amount to anything. As suggested by Dr. Mitchell, the relation between muscular exertion and mental exercise should be studied. Every one knows by personal experience that when mentally fatigued he is incapable of performing the usual amount of physical labor. This is probably independent of any question of overflow, and goes back to the higher cerebral centres and their relation.

Dr. Charles K. Mills: It seemed to me, while listening to the reading of this paper, that certain well-known clinical facts in cases of brain-disease have some relation to the subject under consideration. For instance, an old hemiplegic, if examined carefully, will be found to have not only the decided loss of power and accompanying conditions resulting from the lesion on the opposite side of the brain, but also a certain diminution of strength in the limbs of the other side, a condition which is not entirely due to the general loss of physical power present. The phenomena which are exhibited by certain spastic cases, or certain cases of unilateral spasm, also seem to me to have some relation to this subject. I have carefully studied the histories of certain cases of spasmodic infantile hemiplegia. In some of these cases the autopsy has subsequently shown the existence of an irritative, destructive lesion in one hemisphere of the brain. If these cases are carefully studied, it will be found that in not a few the spasm has first appeared in one limb, or in a portion of one limb, or in the muscles of one side of the body. After the lapse of months or years, the spasms increase and involve the whole of the original side, and after a time the other side.

We have other illustrations of the same idea in cases of dural spasm, of which there is at the present time an instance in Blockley Hospital, where the spasm was shown by operation to be due to irritation of the dura mater. In this case, and in another on which trephining was performed, the spasms were at different times unilateral and bilateral. Any number of illustrations of this kind could be

adduced from clinical experience. They show that a lesion strictly local, involving only one hemisphere and only a limited portion of that hemisphere, will give rise to local spasms, and after a time to general spasms, the other hemisphere never becoming involved in any direct pathological process. Radiation of irritation from lower centres may, however, explain some of these cases.

Dr. H. HARTSHORNE: I have given some thought to this interesting subject, looking at it from rather a different point of view from that presented so far to-night. The experiments of Dr. Randolph seem to confirm the conclusions of Drs. Mitchell and Lewis quite distinctly, but there is, I think, a great deal more than that in them. They show that there is not that differentiation of centres which has been asserted,—that there is not an insulation, as we may say, of the centres. I should say there is co-ordination and unity more than mere sympathy, especially of those of the two sides of the brain and of the spinal cord. With regard to the brain, we are all aware that our consciousness attests this unity, which is perceptional and volitional. Some simple evidence on this point is familiar to us. How is it that, with the eyes shut, we can place any finger of one hand against the corresponding finger of the other hand? This must be done solely under central guidance. With reference to Dr. Wood's illustration, it seems to me that the inability to lift two heavy weights at the same time is due not to the greater difficulty in the use of the muscles, but to the physical inconvenience owing to the structure of the body. It is awkward. The experiments of Dr. Randolph certainly point the other way. There is another curious experiment which I have frequently repeated. If you write on a blackboard with both hands at once, I believe that you can write your name more readily and certainly backward with the left hand than when the left hand is used by itself. You do not need to pay more attention to one hand than to the other. Here is an example of bilateral unity of volition.

The first result of Dr. Randolph I should explain very much as is done by Dr. Wood: that is, that there is a certain amount only of available dynamic energy at any one time and place, and if that is drawn upon the general sum of dynamic energy, and especially the energy in that particular part, is diminished. When one hand has done all that it can do, the sum of the energy is lessened, and if there is a repetition of the work by the other hand, the amount is less than it would have been if there had been this consumption of power.

The second result is even more interesting, and I think involves psychical factors as well as those which are purely physiological. It does not seem to me that intracranial processes include all in explaining these results. The energy belonging to the spinal centres has to do with forming the sum total of available energy at the time. In explaining the fact that the two hands working together perform more work without exhaustion than when they are used one after the other, there seem to be two other factors, attention and voluntary inhibition. We all know that fatigue is caused by attention. Dr. Randolph spoke of eye-strain; that is also brain-strain. It is said that those who, in working the submarine cable, translate the messages by watching the flash only of light from a mirror, are able to work one hour at a time. The physical effect of attention is shown by a curious experience which has been published in the journals: that is, that if a light be placed near enough to the eye to affect the pupil, yet allowing the subject to see beyond, it was repeatedly observed that if the attention was directed to the light the contraction of the pupil was decidedly greater than when the attention was directed to something beyond. There are also some curious results reported not long ago by Raggi. In experimenting with faint sounds, such as the ticking of a watch in a room where all was silent, he found that there were intervals when no sound was heard. These periods were as long as from seven to twenty-two seconds. The period during which there was audition was from seven to fifteen seconds.

Taking the view which I have already expressed in regard to the unity or co-ordination of the cerebral and spinal centres of the whole cerebro-spinal axis, it may be that the natural and spontaneous method of volition is for the impulse to descend and distribute itself symmetrically to the two sides, and that attention is necessary to prevent this and to make its direction oblique and concentrate it upon one side, and as a result of this effort of attention fatigue is induced.

I am not a believer in the normal functional inhibition of nerves, although this view is held by most authorities. It is apparent that we have three kinds of inhibition: one of the lower centres by the higher, the spinal axis by the brain; another form is pathological, of which there are many instances; and the third form is voluntary inhibition. I need say nothing more in the way of illustration than to refer to the great fatigue or strain which is induced by the effort to restrain strong emotions. There are some circumstances under which it is the hardest thing possible to keep still. That is what I mean by voluntary inhibition. If it be true, as I have conjectured, that there is this normal symmetrical mode of volitional action from the brain downward through the spinal cord to the two sides rather than to one side, there is need to restrain the one not allowed to act. This effort to restrain one side is a draft upon the cerebro-spinal energy, and this involves some fatigue, and thus there is less power if

one act follows the other than if both acts are performed at the same time.

It seems to me that the greatest importance of such observations consists in their effect in modifying the idea which was formerly held as to the meaning of the term "nerve-centre." Long ago Flourens suggested that there is an equivalence of function for all parts of the brain. This view, of course, cannot be held. Later, Brown-Séquard formulated the idea that one hemisphere might do all that the whole brain could do, not in power and endurance, but in function. There has been published within a year a work by Luciani and Seppili on cerebral localization, in which they very clearly point out that a centre is not a point or a cell, or a collection of a few cells; but the idea might be illustrated by our use of the terms "centre of business," or "centre of fashionable residences:" while the business may be conducted largely in one locality, still it is not confined to that part. In one of the diagrams of the authors mentioned, the visual centre is shown by a dark place, the central portion of which is the darkest. This view explains many experiments where the destruction of what is called a centre does not prevent the performance of the function belonging to that centre. It seems to me to be an important advance in nerve-physiology to get rid of the idea of the insulation of centres.

Such experiments as those of Dr. Randolph are of great interest in connection with pure physiology, and also in connection with psycho-physiology, which has now almost displaced the old psychology in the schools, and which occupies a large part of the attention of both physiologists and psychologists.

Dr. Francis X. Dercum: The thoughts that suggest themselves to me have in a large part been embodied in what Dr. Wood has said and in the latter part of the remarks of Dr. Hartshorne. I think it extremely probable, and have so expressed myself in a paper read before the American Neurological Society, that the nerve-centres are not centres defined with anatomical and mathematical precision. The centre is simply the point of greatest functional activity. Take, for instance, the centres for motion, and the sensory areas in the cortex; these are nothing more than the points where the various motions and sensations are focussed. These points are to me nothing more than the gateways of ingress and egress to the general cortex. It also seems to me that, the nervous system being a whole, if any one part acts it must necessarily tire the whole. If one part acts, all the other parts must be fatigued; and the evidence is all the time increasing that the interdependence is so great and intimate that this can be held not simply as a mere speculation, but can be regarded as a fact. To such conclusions does the work of Dr. Randolph, and that of Drs. Mitchell and Lewis, incline.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held March 23, 1887, the President, T. Mitchell Prudden, M.D., in the chair.

EXTREME CIRRHOSIS OF THE LIVER AND CHRONIC PHTHISIS.

The President presented two sets of specimens, the first being from a woman who had suffered from the symptoms of cirrhosis of the liver and nephritis. She gave a history of alcoholism. The autopsy revealed two distinct sets of lesions. There was marked cirrhosis of the liver, with chronic diffuse nephritis. There was also chronic miliary tuberculosis and tubercular peritonitis. The symptoms from which she had suffered were due to the cirrhosis rather than to the tuberculosis.

MULTIPLE ADENOMATA OF THE KIDNEYS.

The second set of specimens presented by the President illustrated multiple adenomata of the kidneys in a man who died of an injury. He presented the specimens not because adenoma of the kidneys is so exceedingly rare, but also because in this case the tumors were multiple, which was not so very common; they occurred in both kidneys, which again was not very common. They illustrated the two forms in which adenomata occurred,—the alveolar and the papillomata. They were sharply circumscribed, and varied in size, showing the progress of the growth. Some were brown, some white, the difference in color being due to the deposit of pigment in the brown ones.

PNEUMONIA AND PLEURISY OF SEPTIC ORIGIN IN AN INFANT.

Dr. J. Lewis Smith presented the lungs and related the history of the case of a child which died at the eighth month. It had been healthy, and even at death was not much emaciated. About five weeks ago a cellulitis was noticed in front of the ear. After it had continued about a week the physician discovered fluctuation and lanced the abscess, about two drachms of pus escaping. The discharge from the opening nearly ceased in two or three weeks. This abscess seemed to sustain an etiological relation to the disease of which the child died. Two weeks before its death the child became suddenly very feverish and restless; it vomited several times during the first day and night. The temperature on the first day, he was told, was a little more than 104° F. Throughout the disease there was more than the usual amount of cerebral symptoms seen in pneumonia. Dr. Smith saw the case in consultation, and discovered a small amount of dulness at the apex of the right lung. He saw the child again after about a week, when there was complete dulness over the entire left lung, it being the

percussion-note of pleuritic exudation. The respiratory sounds were indistinct and distant, perhaps slightly broncho-vesicular in character. The apex-beat of the heart could not be detected. The pulse was 180, the respirations 70 to 80. The temperature had been constantly high, at one time 105.5°.

At Dr. Smith's second visit the temperature had fallen to 102°. He was inclined to believe that, in addition to a pleuritic exudation, there was also pericarditis. The autopsy showed a nodule of pneumonia at the upper part of the right lung. There was a little fibrinous exudation along the free border of the upper lobe on this side. Cutting into this portion of the lung, they found as many as eight points of necrosed lung. On the left side about two and a half ounces of serofibrinous exudation escaped; the whole of this lung was covered with pleuritic exudation. The lower lobe was almost completely hepatized. The lower superficial portion of the left lung seemed also to be in a condition of commencing necrosis. There was no pericarditis. Dr. Biggs had made a microscopic examination. Dr. Smith thought the pleuritic and pneumonic inflammation were septic in origin, the point of infection being the abscess on the face.

REMOVAL OF THE UTERINE APPENDAGES.

Dr. JONES presented the ovaries and tubes in about eight cases removed for disease and severe symptoms. The histories of several of the cases were read, together with remarks upon the title of the operation.

BULLET-WOUND OF THE LIVER.

Dr. JACKSON presented the liver of a man who attempted suicide with a pistol (calibre thirty-two). The ball entered three-quarters of an inch below the ensiform cartilage, half an inch to the left of the median line. The patient walked across the room to a bed after the injury, and was doing well in the afternoon, when Dr. Sands probed the wound a distance of four and three-quarter inches. The ball was felt beneath the skin, below the right scapula. The question of laparotomy was raised, and was left for the family to decide. They preferred that it should not be performed. The expectoration of a little bloody mucus was the only symptom of note. A small area of hardening of the lung was present in the neighborhood of the bullet. About a month after the injury the patient's mental symptoms returned: he attempted to jump out of the window. He lay comatose the last five days of his life. The autopsy showed that the ball had traversed the left lobe of the liver and passed through the diaphragm and posterior mediastinum. No hollow viscera were penetrated. There was no general peritonitis, and no hemorrhage into the peritoneal cavity. There was some broncho-pneumonia in both lungs. Death seemed to have been due to the acute mania.

Dr. W. H. PORTER had, last winter, made an autopsy in a case in which a bullet passed directly through the right lobe of the liver, just to the right of the gall-bladder; yet there was absolutely no hemorrhage into the peritoneal cavity. The man lived two or three days after the injury, and seemed to have died from septic infection arising from the entrance of air into the retroperitoneal tissue. He remembered another case in which no hemorrhage followed the passage of a bullet through the liver. He also recalled the case of a man who had quite an extensive rupture of the liver without hemorrhage.

DANGER ATTENDING MOVEMENT OF THE BOWELS CONFINED SOME DAYS AFTER LAPAROTOMY.

Dr. DUDLEY reported further on the case of hysterectomy the specimens of which he presented at the last meeting. The patient had no untoward symptoms, and was doing well, until the sixth day, when he caused the bowels to move. The fact that she had been doing so well was one reason why he did not move the bowels sooner. Soon afterwards serious symptoms developed, and the patient came near losing her life. She was now, however, doing well. This was the second or third case which he had seen in which serious symptoms had followed movement of the bowels confined six or seven days after laparotomy: in one death occurred, and the autopsy revealed a ruptured abscess beneath the stomach. He thought it was a serious mistake to allow the bowels to remain confined so long a time after the operation.

REVIEWS AND BOOK NOTICES.

VON ZIEMSSEN'S HAND-BOOK OF GENERAL THERAPEUTICS. In Seven Volumes. Vol. V. General Orthopædics, Gymnastics, and Massage, by PROFESSOR FRIEDRICH BUSCH, M.D., of Berlin (Translation edited by NOBLE SMITH, F.R.C.S. Edin.); Hydro-Therapeutics, by Dr. W. WINTERNITZ (Translated by F. W. ELSNER). Illustrated. Pp. 624. 8vo, cloth.

The tendency of modern practice of medicine to settle down to routine prescribing of formulæ, more or less stereotyped, for the relief of physical disorders is due to the superficial and hasty teaching of our schools. Men graduate in medicine without any knowledge of the therapeutics of gymnastics, without having ever listened to a lecture on massage, and without any acquaintance with hydro-therapeutics other than a dim idea that it is a variety of irregular practice. Noting the importance of the subjects discussed in

the present volume of this classical series of therapeutic hand-books, we have found our interest stimulated by the able and scientific treatment of them by Busch and Winternitz, who are recognized as pioneers in this department. A valuable bibliography is contained in each section of the volume.

A Practical Treatise on Impotence, Sterility, and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., LL.D., etc. Third Edition, thoroughly Revised. With Sixteen Illustrations. Philadelphia, Lea Brothers & Co., 1887. 8vo, cloth. Pp. 172.

This handsomely-printed monograph upon disorders in the treatment of which the author has a well-earned reputation now appears in a third and thoroughly revised edition; it has also been honored by a Russian translation. In its four chapters Impotence, Sterility, Spermatorrhœa, and Prostatorrhœa, and their various forms, are discussed from a clinical stand-point especially, with judicious remarks upon pathology and treatment. The relation existing between strictures of large calibre with masturbation on the one hand and impotence on the other is brought out prominently in the histories of several cases, which without urethral examination would have been classed as psychical impotence.

Medical Electricity. A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A.M., M.D., LL.D., etc. Third Edition, Enlarged and Improved, with One Hundred and Ten Illustrations. Philadelphia, Lea Brothers & Co., 1887.

The present edition has been enlarged by the additions chiefly in the sections upon therapeutics, and a fuller account is given of the appliances for electrical illumination and the apparatus used in galvano-cautery. Galvano-faradization and electric baths have also received fuller consideration. No practising physician can afford to use electricity without informing himself as to its scientific applications, and to those wishing a good manual upon the subject this handsomely printed and illustrated treatise will prove very acceptable.

Manual of Treatment. A Concise Presentation of the Modern Methods of Treating Disease Employed by the best Authors, Teachers, and Practitioners, arranged with special reference to the Needs of American Practitioners. By C. F. Taylor, M.D., and William F. Waugh, M.D. Published by the Medical World, Philadelphia, Pennsylvania, 1887. Cloth, 8vo. Pp. 532.

This manual of practical therapeutics is in the popular and convenient form of an encyclopædia, the subjects being alphabetically arranged for convenience of reference. The practical recommendations of many physicians, both European and American, are given in the treatment of the principal diseases, the style being direct and to the point. Great industry has been displayed in collating so many authorities, but greater editorial skill is shown in the careful condensation of the paragraphs on treatment. We think that this book will meet with a large sale, and will more than satisfy those who purchase it.

NEW REMEDIES AND CLINICAL NOTES.

Waking Numbness.—Dr. Andrew H. Smith, in the April number of *The American Journal of the Medical Sciences*, describes under this title a heretofore undescribed neurosis, and reports four cases, from a study of which it appears that the numbness is something added to the normal condition. It is a purely subjective condition. There is no paralysis of motion or sensation; the tactile sense is unimpaired; there is no change in the temperature of the affected part; the surface is not blanched or mottled; there is no tenderness on pressure. These characteristics separate this condition widely from those known under the name of night-palsy, local asphyxia, digiti mortui, Raynaud's disease, erythromelalgia, and from the various paræsthesias and acroneuroses heretofore described.

Doubtless the conditions upon which the numbness depends are present during sleep, but the sensation is not sufficiently strong to arouse the sleeper, and he first becomes conscious of it when awakened by some other cause.

The cause of this condition is probably central, since the effect is usually symmetrical. It would seem to be connected with the lowering of the circulation which takes place during sleep, and to disappear when the circulation returns to the waking condition, whether the return be spontaneous or the result of rubbing, etc. As to the latter, it is doubtful whether it has any other effect than that upon the general circulation which the muscular exertion would necessarily produce.

As for treatment, in the only case in which the condition existed by itself, and independently of more serious conditions, ergot, digitalis, strychnia, and aconite were tried at different times, but without result. The inconvenience produced by the affection was so slight that no treatment was carried out efficiently, so that even these negative results were of no value. In each of the other cases there was a diseased condition present to which the numbness was subordinate, and which afforded the indications for treatment. In proportion as the treatment of the underlying condition was successful, the numbness disap-

peared. If it be true that the cause is central, no local treatment is likely to be of service.

TYPHO-MALARIAL FEVER.—Dr. J. Edward Squire, in a study of typho-malarial fever, which appears in the April number of *The American Journal of the Medical Sciences*, maintains that this disease is not a subdivision of enteric fever, but a form of malarial fever, and defines it as "a malarial fever which has assumed that adynamic type which is present in enteric fever." He gives a concise account of its history, symptoms, pathology, diagnosis, and treatment.

MISCELLANY.

MATERNAL INJURIES REPRODUCED UPON THE FŒTUS.—There was a very curious case of medical evidence offered recently in a court in Mercer County, Pennsylvania, which is thus stated in the *Albany Law Journal:*

"Some weeks ago, a young woman named Scott, who was soon to become a mother, appeared before a justice of the peace and swore out a warrant for the arrest of a young man named William Bloodgood on a charge of assault and battery. The young woman swore that, two weeks previously, the prisoner had come to her house, and as she objected to his remaining he had choked her until she was almost unconscious, and had twisted her left wrist, almost dislocating it. She said the marks of his fingers and thumb were visible on her throat for several days, and her wrist had remained crooked for some time. She had no witnesses of the assault. Bloodgood admitted having been at the young woman's house, but denied the assault. The justice held him, however, for trial.

"The case came on for trial. The complainant appeared, carrying her three-weeks-old baby. She swore to having been assaulted by the prisoner, as she had sworn before the justice of the peace, and that she was the mother of the child in her arms. Her lawyer then offered to show the baby to the jury. After examining it the judge allowed this, and the prosecuting lawyer took the infant to the jury, and, uncovering its throat, revealed to them the distinct marks of four fingers on one side of it, and the plain and unmistakable impression of a thumb on the other. After the remarkable birthmarks had been examined by the jury, the lawyer uncovered the baby's left wrist. It was twisted out of shape and swollen, as if it had been suddenly wrenched. These marks on the throat and the twisted wrist corresponded exactly with the injuries the baby's mother swore, more than a month before it was born, to having received at the hands of the prisoner Bloodgood. After this startling and most extraordinary evidence was presented, the prosecution rested its case. The prisoner was convicted."

The facts of the case were taken from newspaper articles, and not from official reports, so that there may be chance for some inaccuracy; but the case is certainly a most remarkable one.

It will be noticed that the woman was far advanced in pregnancy, when it is usually considered that physical effects upon the fœtus are not probable. There does not seem to have been any expert medical testimony produced to connect scientifically the birthmarks with the alleged assault, and yet it is certain that little baby presented to the minds of the jury the strongest corroborative evidence of fact of the assault.

A LIBELLOUS EPITAPH.—It is generally considered a mean and despicable trait to speak ill of the dead, but the question whether a person could libel a dead person has only been recently passed on. In an English court the following very curious funereal inscription came up for discussion. It was an epitaph proposed for the statue of a deceased person: "In Honour of John Batchelor, a Native of Newport, who early in life left his country for his country's good; who on his return devoted his life and energies to setting Class against Class; a Traitor to the Crown, a Reviler of the Aristocracy, a Hater of the Clergy, a Panderer to the Multitude, who, as First Chairman to the Cardiff School Board, squandered funds to which he did not contribute; who is sincerely mourned by Unpaid Creditors to the Amount of Fifty Thousand Pounds; who at the close of a wasted and misspent life Died a Demagogue and a Pauper, this Monument, to the Eternal Disgrace of Cardiff, is erected by Sympathetic Radicals. 'Owe no man anything.'" An epitaph like this certainly comes very close to the libellous grade; but the court held that there could be no libel strictly against the dead, and, as this epitaph contained nothing reflecting on the living, it was decided that nothing could be done.

A short time since a case came up for trial in Missouri where a father, believing that his son had been drowned by some playmates, placed this statement on the gravestone. He was obliged to pay heavy damages for the exercise of his spite against the living. In the first case given, that of the Cardiff gentleman, there seemed nothing reflecting on the living, so the judge was compelled to dismiss the case.

THE DIRECT ACTION OF ATROPINE, HOMATROPINE, HYOSCINE, HYOSCYAMINE, AND DATURINE ON THE HEART OF THE DOG, TERRAPIN, AND FROG.—Dr. H. G. Beyer, from an experimental study of the action of these drugs, which appears in the April number of

The American Journal of the Medical Sciences, reaches the following conclusions:

1. Atropine, homatropine, hyoscine, hyoscyamine, and daturine are stimulants of the sympathetic nerve apparatus of the heart.

2. The vaso-motor portion of this nerve apparatus is affected by comparatively small doses of these drugs, giving rise to either acceleration or augmentation in the heart's action.

3. The inhibitory portion is excited by large doses only, giving rise to slowing of the heart's action, and, finally, causing diastolic arrest.

4. The muscular substance of the heart is greatly excited by atropine, homatropine, and daturine, and only slightly so by hyoscine and hyoscyamine.

5. The vaso-motor nerves and their ganglia are the first to become exhausted, the inhibitory nerves and their ganglia are the next, and the muscular substance is exhausted last of all.

6. The slowing of the heart's action which follows the administration of these drugs in the intact animal may be sufficiently accounted for by their influence on the inhibitory nerves and ganglia of the heart itself.

7. The acceleration following the administration of certain doses of these drugs cannot be sufficiently accounted for by their action on the accelerator nerves and ganglia within the heart, but is principally due to causes resident outside this organ.

The Association of Genito-Urinary Surgeons will hold its first annual meeting at Lakewood, New Jersey, May 17 and 18. An interesting programme has been issued. Dr. E. L. Keyes, of New York, is Temporary Chairman, and Dr. R. W. Taylor, of New York, Temporary Secretary.

The Penn Mutual Life Insurance Company of Philadelphia has appointed Drs. Clara Marshall and Anna Broomall examiners for a special class of risks among women.

The American Climatological Association will hold its Fourth Annual Meeting in Baltimore on Tuesday and Wednesday, May 31 and June 1.

NOTES AND QUERIES.

OBITUARY.

Professor James Stewart Jewell, M.D., a prominent physician in Chicago, died on the 18th inst., after suffering with a complication of disorders for more than five years. He was born at Galena, Illinois, September 8, 1837, and after pursuing the regular course of medical studies at the Chicago Medical College, he was graduated from that institution in 1860. Four years later he was elected to the vacant chair of Anatomy in the faculty of his Alma Mater, which he filled for five years. In 1872 he was elected Professor of Nervous and Mental Diseases, which connection he retained for many years, and at the time of his death he was Professor Emeritus. He rendered substantial service to the cause of neurology in this country, both by his teaching and writings, and by establishing the *Journal of Nervous and Mental Diseases*, of which for several years he was chief editor. He was also one of the organizers of the American Neurological Association. A few months ago he began a new journal, the *Neurological Review*, but it was soon suspended, owing to his increasing ill health. By those who had the good fortune to know Dr. Jewell he was highly esteemed, and he was respected by all.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 10, 1887, TO APRIL 23, 1887.

Lieutenant-Colonel J. R. Smith, Surgeon. — Detailed as member of board to meet in Washington, D.C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Major Morse K. Taylor, Surgeon.—Relieved from duty at Fort Sill, Indian Territory, May 10, 1887, to proceed home, San Antonio, Texas, preparatory to retirement. Par. 20, S. O. 92, A. G. O., April 21, 1887.

Major Charles L. Heizmann, Surgeon.—Detailed as member of board to meet in Washington, D.C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Captain Fred. C. Ainsworth, Assistant-Surgeon.—Detailed as member of board to meet in Washington, D.C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army. Par. 8, S. O. 92, A. G. O., April 21, 1887.

Captain Edward B. Moseley, Assistant-Surgeon.—Ordered for duty at Whipple Barracks, Arizona. S. O. 89, A. G. O., April 18, 1887.

Captain John J. Kane, Assistant-Surgeon.—Resigned April 13, 1887. S. O. 85, A. G. O., April 13, 1887.

Captain Chas. Richard, Assistant-Surgeon.—Granted two months' leave of absence, on surgeon's certificate of disability. S. O. 82, A. G. O., April 9, 1887.

First-Lieutenant Freeman V. Walker, Assistant-Surgeon.—Ordered from Fort McIntosh, Texas, to Post of San Antonio, Texas. S. O. 45, Department of Texas, April 11, 1887.

First-Lieutenant Julian M. Cabell, Assistant-Surgeon (recently appointed).—To proceed to Fort Omaha, Nebraska, and report in person to the commanding officer of that post for temporary duty. Par. 19, S. O. 92, A. G. O., April 21, 1887.

Appointments.—To be Assistant-Surgeons, with the rank of First-Lieutenant, to date from April 14, 1887: Charles E. Woodruff, Julian M. Cabell.

The Army Medical Board, New York City, New York, is dissolved. S. O. 82, A. G. O., April 9, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDING APRIL 23, 1887.

Passed Assistant-Surgeon S. H. Griffiths.—Detached from the U.S.S. "Lancaster," and waiting orders.

Passed Assistant-Surgeon C. T. Hibbett.—Detached from duty on iron-clads, City Point, Virginia, and waiting orders.

Passed Assistant-Surgeon E. H. Marsteller.—Ordered to duty on iron-clads, City Point, Virginia, the 20th inst.

Passed Assistant-Surgeon A. C. H. Russell.—Ordered to duty at Naval Laboratory, New York, May 2, 1887.

Passed Assistant-Surgeon A. C. Heffinger.—Ordered to Widow's Island, Maine, to superintend building a naval hospital, wharf, and other improvements, under instructions of the Surgeon-General of the Navy.

Assistant-Surgeon Charles E. Woodruff.—Resignation accepted, to take effect April 8, 1887.

PHILADELPHIA, MAY 14, 1887.

ORIGINAL LECTURES.

ON THE TREATMENT OF SCARLET FEVER.

BY FRANK E. WAXHAM, M.D.,

Professor of Diseases of Children in the College of Physicians and Surgeons, Chicago, Illinois.

Reported by WILLIAM WHITFORD.

GENTLEMEN,—We will consider today the therapeutics of scarlet fever, and, as indicated in our last lecture, the treatment of the disease will be preventive, hygienic, and medicinal.

Preventive Treatment.—In the prevention of the contagious diseases there is a wide field for investigation. We have no specific preventive of scarlet fever as we have of smallpox. The virus of the disease has been inoculated into animals, but its severity has not been modified, the subjects almost invariably dying within a few days from the violence of the malady. It is barely possible that future investigations will prove that the virus, by repeated cultivations, may be so modified that it may be safely inoculated into the human subject, but as yet our preventive measures are limited to isolation, ventilation, disinfection, and the application of antiseptics to the body of the patient.

Perhaps I should refer, in this connection, to certain remedies that have been brought forward from time to time as useful in the prevention of this disease. Belladonna is perhaps the most favorably known in this respect. It has been approved frequently by authorities, and recommended as a remedy which when given previous to an attack of the disease will prevent its occurrence. Boric acid has been more recently advocated for the same purpose, but it is extremely doubtful whether we have any remedy which, administered internally, will prevent an attack of scarlet fever.

Isolation perhaps is our most important preventive measure. Too frequently, indeed, we see cases treated in luxurious apartments, where there are richly upholstered furniture, Brussels carpet, and heavy lace curtains, all of which retain the poison of the disease for weeks or even months. Too often the physician enters the house of a patient sick with scarlet fever, and, removing his overcoat and leaving it upon the rack, goes to the sick-room, and perhaps examines his patient carefully for half an hour, collecting all the poison possible upon his person. Then, after leaving the apartment, he puts his overcoat on again, thus carrying with him the germs of the disease to be distributed to the next family that he visits. This is all wrong. The conscientious physician will take every precaution possible towards the prevention of this dreaded disease of childhood. The moment we are suspicious of an attack of scarlet fever and are called to see a patient, and find the rapid pulse characteristic of the disease, together with occasional vomiting and sore throat,—when we observe these symptoms we should at once isolate the patient, and then if we have made a mistake no harm certainly will have resulted, but if the case proves to be one of scarlet fever other lives may be saved by this precaution. There are two methods of isolation,—viz., (1) we may place the patient in a spare room alone, with an attendant or nurse; (2) we may send the well children away from home, to the friends, neighbors, or relatives of the family. But here we often meet with the remark that they have no friends, no neighbors or relatives to whom they can send their well children. In Chicago I know there is no place where well children can be sent: there is no public institution or hospital where well children, under such circumstances, can be taken and cared for until the danger has passed and until they can return safely to their homes. In every large city there should be a hospital or refuge where such children can be carefully watched and cared for until they can be safely taken home. If possible, we should take the patient to a large room and there isolate it with a nurse; the meals should be taken to it; and the nurse, whenever she leaves the room, especially to mingle with the other members of the family, should thoroughly disinfect her hands and face and change her clothing. The child should remain in the apartment not only until the disease has subsided, but until desquamation has completely taken place. The discharges from the nostrils and mouth should be collected on old cloths and should be burnt; the discharges from the bowels

should be passed in some antiseptic fluid and destroyed. (For instance, we may use a solution of eight ounces of sulphate of zinc, one ounce of carbolic acid, and three gallons of water; or, in preference to this solution, we may make one of one pound of chloride of iron, an ounce of carbolic acid, and three gallons of water. This makes an excellent antiseptic solution.) The bedding, sheets, and clothing of the child worn during the sickness should not be removed from the room until they are thoroughly saturated with the first antiseptic solution mentioned: they may then be removed and boiled in water, which will effectually kill the poison. After complete desquamation has occurred and the skin has returned to its natural suppleness and softness, the child should be anointed with some carbolized ointment and fresh, clean clothes placed upon him, and then allowed to mingle with other members of the family. After the patient has left the room a pound or three pounds of sulphur should be saturated with alcohol and burned, and the fumes should remain several hours in the apartment, then the windows should be opened and the room thoroughly ventilated. If in addition to these measures the room be repapered or recalcimined, then there will be little danger of its being a medium of contagion. I should have remarked also that all superfluous furniture should be removed from the room, the curtains taken down, carpets taken up and removed, leaving nothing behind that cannot be thoroughly disinfected. The wood-work around the room should be scrubbed after the recovery of the patient. In case this is impossible, and the crowded condition of the people will not permit of complete isolation in the home, you can place the patient in a corner of the room on a bed, keep the well children away from him as well as you can, apply frequently antiseptic ointments or lotions to the body of the patient, and in this manner you will be able to destroy the poison and prevent its escape about the room. For this purpose we might use a combination of cold cream and glycerin, to which a little carbolic acid may be added, or cosmoline or fresh lard into which the carbolic acid is incorporated. This should be applied all over the body of the patient every two or three hours. I well remember being called to a family consisting of father, mother, and three children, and one of the children showed unmistakable evidences of an attack of scarlet fever. All the initial symptoms were present: rapid pulse, chill, slight vomiting, etc. I endeavored to impress upon the minds of the parents the importance and practicability of sending the well children away from home, but they informed me it was impossible to do so. They lived in three small apartments: one was used for a bedroom (in which there were two beds), the other two for sitting-room and kitchen. The bed which the well children occupied was taken from the bedroom and placed in the sitting-room; the door was open so as to warm the sick-room comfortably. The well children were prevented from entering the room of the patient, antiseptics were applied repeatedly for two or three weeks (and he, by the way, had a severe, sharp attack of the disease), and when the child left the room it was thoroughly disinfected, and the other children escaped the disease. I think it was due entirely to the local application of antiseptics as previously directed.

Hygienic Treatment.—The hygienic treatment of the disease requires keeping up a uniform temperature day after day, night after night, and week after week, until convalescence has occurred. This is of great importance. The temperature range of the apartment should be from 68° to 70°; but in the latter stages of the disease, after the fever has subsided, it may be higher, and we perhaps may have a temperature of 70° or 75° during convalescence, because complications are more liable to occur during this period. There is a greater liability to complications attending a low temperature. The diet should be simple, plain, and nourishing. The room should be well ventilated. It is a mistake to heap clothing upon the child, and thereby increase its discomfort; the clothing should be just comfortable. If the child is hot and feverish, simply throw a sheet or thin coverlet over it, and do not attempt to increase the body-temperature by a great amount of clothing. Frequently you will find ignorant people who, having a child coming down with measles or scarlet fever, will put hot poultices upon it, then over all these three or four heavy blankets, and the consequence is that the child will be nearly suffocated. The idea on the part of the parents is to keep the child warm, so that the rash will come out

well. This is dangerous: it will increase the bodily temperature and irritation; it will do no good whatever. The clothing, therefore, should be light and comfortable. So much for the hygienic treatment.

Medicinal Treatment.—In regard to the medicinal treatment let me say this: it is impossible to abort an attack of scarlet fever. If the child has been exposed and is susceptible to the disease and manifests unmistakably the initial symptoms, it must pass through the attack. It is impossible by heroic measures or otherwise to break it up, so that if the attack be mild we will be satisfied simply with rigid preventive and hygienic treatment, together with careful watching of the patient, without the administration of much medicine. Give the child plenty of water to drink; I have never known any harm to result from an abundance of water. Any child suffering with a contagious disease should have plenty of cold water. If the skin is hot it should be thoroughly anointed with lard or vaseline, cold cream or cosmoline, as previously mentioned. The application of these will serve a double purpose: they will prevent the diffusion of the contagion through the room, allay the burning and irritability of the skin, and are at the same time soothing to the inflamed epidermis. The frequent application of soothing lotions, the occasional cool sponge-bath, may be all that is required in mild cases. If, however, the attack is somewhat more severe; if the pulse is rapid, the temperature elevated to 103° or 104°, then perhaps we should resort to some medication, such as a combination of quinine. I believe that quinine is one of our most useful remedies in the treatment of diseases of early life. We might give the following:

℞ Quininæ sulph., ℈j;
Ext. glycyrrhizæ fld. (Burrough Bros.), f℥ss;
Ol. anisi, gtt. vj;
Syr. simp., ad f℥ij. M.

Sig.—Teaspoonful of this may be given every three hours. It is an antipyretic.

In addition, for a child two years old, we may give:

℞ Tr. digitalis, gtt. xxxij;
Liq. ammon. acetatis, f℥ss;
Syr. simp., f℥ss;
Aquæ, q. s. ad f℥ij. M.

Sig.—Teaspoonful to be given every three hours, alternating with the quinine.

If the case is not dangerous and severe, this will be sufficient. Let us suppose there is a throat-complication,—the inflammation of the throat severe and false membrane forming in the pharynx. Instead of the digitalis mixture we might use the following combination:

℞ Tr. ferri chl., gtt. xxxij;
Glycerini, f℥ss;
Potassii chloratis, gr. xx;
Syr. simp., q. s. ad f℥ij. M.

Sig. Teaspoonful to be given alternating with the quinine-mixture.

I believe no good can result in these cases from a continual swabbing of the throat with a rough sponge and the use of astringents. The physician can occasionally with benefit paint the pharynx with some astringent lotion; but a coarse swab in the hands of an attendant will only increase the irritation of the pharyngeal mucous membrane and aggravate the symptoms. In place of the swab, we will accomplish far better results with the hand-atomizer, which is less annoying to the child. We may make this combination:

℞ Acidi carbolici, gr. ij;
Potass. chloratis, gr. xx;
Glycerini, f℥ss;
Aquæ, ad f℥ij. M.

This may be used in the atomizer every hour or so. The throat and pharynx should be thoroughly sprayed by such a solution, and it will not only be soothing to the pharyngeal mucous membrane, but antiseptic as well. We might gain a point by the use of lime-water in the solution, instead of plain water, inasmuch as it is a solvent to false membranes. If there is invasion of the nasal passages and a mucopurulent discharge from the nostrils, we should resort to the use of the spray. Let us attack the mucous membrane of the nostrils the very moment it becomes invaded, or the very moment symptoms of coryza manifest themselves. Immediately make use of the atomizer or nasal douche,—a solution of the bichloride of mercury or carbolic acid, to act upon the naso-pharyngeal mucous membrane,—and in this manner we will in many cases prevent the inflammation from extending into the middle ear by way of the Eustachian tube. We will prevent in many of these cases the suppurative inflammation that so frequently results in perforation of the membrane of the drum of the ear, with obstinate and offensive discharges.

If the disease be accompanied with high

temperature, we must endeavor to reduce it by the frequent use of the cool sponge-bath, the cold bath, or the cold pack, or by the use of antipyrin or thallin. I believe these measures are far better than large doses of quinine, for the large doses necessary to reduce the temperature in a child will usually disturb the stomach and interfere with digestion; they will be frequently rejected, and consequently no benefit will be derived from them. We will resort then to frequent sponging of the patient's body with water in which some alcohol is placed. If this does not reduce the temperature, we may give ten or twelve grains of antipyrin per rectum, the injection to be repeated in an hour or so: in fact, we give two or three injections until the temperature is reduced. If the antipyrin fails, you can make use of thallin; but antipyrin is preferable to thallin, for the reason that it is not so depressing in its action. If these measures fail, we will resort to the cold bath. In giving the cold bath let us give it in such a manner as to produce no shock to the system. Let it be tepid, and reduce the temperature of the bath by adding pieces of ice; this will gradually lower its temperature without producing shock to the patient. Or in place of the cold bath we may use the cold pack. If we use the cold pack, the sheet which is wrapped around the child should be first wrung out of tepid water; after it is wrapped around the child it should be saturated by sprinkling cold water upon it, and then a blanket should be placed over the sheet so as to keep the child comfortable, and in this manner you may reduce the temperature gradually, and the patient may be able to remain in the pack ten, fifteen, twenty, or thirty minutes. After this time everything should be removed, the child thoroughly dried and placed in bed. In a great majority of cases the temperature will fall two or three degrees. Some authorities recommend that the patient be stripped and placed in a wash-tub, and then several pails of cold water thrown upon it at some little height; but I would not advise this process. If you were to take a little, frail, delicate child dangerously ill with scarlet fever, place him in a tub and dash cold water upon him, I should fear the result: the shock to the system would be too great.

In those cases attended with grave cerebral symptoms such as convulsions, followed by stupor and coma, we should make use of the bromides, or if the bromides fail to control the convulsions we might add chloral. In addition to this the head should always be kept cold, and for this purpose we may use the bladder or the rubber ice-bag, filling it half full with pounded ice and bran, which should be kept about the head. The rubber coil filled with ice-water, placed over the head, is also beneficial in these cases.

Complications.—A few words in regard to the treatment of the complications. If there is enlargement of the lymphatic glands of the neck, with tenderness, we should apply over them a pad saturated with cold water, or take a small rubber bag and fill it partly with pounded ice, and place it over the inflamed, swollen glands. The idea is to prevent suppuration if possible. If you detect fluctuation, it should be poulticed and opened early, and then dressed antiseptically.

In regard to the otitis of the middle ear which is so troublesome, and frequently so dangerous, at the very onset of the symptoms we should apply a leech either back of or in front of the ear. The hemorrhage should be encouraged, if the child is not too greatly prostrated, by the application of warm poultices, which will generally abort an attack of inflammation of the middle ear and greatly allay the pain. But if the pain be sharp and excruciating, we may use in addition an opiate mixture, dropping within the ear a few drops of warm water containing one-sixth of a grain of morphia, or a small quantity of glycerin containing a few drops of the tincture of opium. We should watch the symptoms of otitis very closely indeed. If the pain continues, especially if there are cerebral symptoms with a bulging of the membrane of the drum of the ear, then paracentesis should always be performed and the accumulated pus allowed to escape. After paracentesis has been performed, antiseptic lotions should be used in the ear. A solution of boric acid is one of the best; say a scruple of boric acid to an ounce of water. A half-teaspoonful of this may be used three or four times a day, or we may use the peroxide of hydrogen, which is a very useful remedy: it penetrates the opening that has been made in the drum of the ear and destroys the pus. It may be used three or four times a day. A great many authorities recommend powdered

boric acid to be placed in the ear-cavity two or three times a day; but you must remember that by the use of boric acid you may occlude the opening of the drum of the ear and prevent an escape of the pus, and then you will have a return of pain in the organ, and perhaps cerebral symptoms as well. If this occur, you must at once resort to the douche in the ear by means of a fountain syringe, using a pint or more of warm water. It will be sedative in its effect; it will remove the incrustation that has formed about the opening, as well as the obstruction.

The rheumatism that occasionally complicates scarlet fever is usually mild, not dangerous, and an anodyne or opiate administered at night, together with cotton padding placed about the joints, will generally be sufficient. If this does not suffice, we may use quinine or salicylic acid, or any of the other rheumatic remedies.

Nephritis I have already referred to as one of the most frequent and one of the most dangerous complications of the disease. I alluded to the necessity of keeping children in the house for three or four weeks in order to prevent the occurrence of this complication, and to the fact that this complication occurs during the period of desquamation, and it is generally the result of exposure to cold and dampness. Hence you can see how important it is that we should give strict and imperative directions with regard to keeping patients within until desquamation is entirely completed and the skin has returned to its suppleness and normal condition.

If dropsy has occurred and the child is very much weakened, then tonics are in order: iron—any of the ferruginous tonics—may be used. These are indicated together with cod-liver oil. If the dropsy is considerable, and there is urgency in regard to the case, you may use cathartics and diaphoretics. Endeavor to eliminate the urea by the skin and from the bowels. In these cases the urine is usually lessened in quantity and loaded with albumen. Let us avoid stimulating the kidneys, for they are already congested, and if we stimulate them to increased activity by powerful diuretics we will naturally do harm. Let us therefore act upon the skin and bowels rather than upon the kidneys. If the case, as I have stated before, is urgent, we may make use of a mild diuretic, such as digitalis containing a little syrup of squill and spirit of Mindererus. We may use the following:

℞ Tr. digitalis, gtt. xxxij;
Liq. ammon. acetatis, f℥ss;
Syr. scillæ, f℥ij;
Aquæ, q. s. ad f℥ij. M.

Sig. A teaspoonful three or four times a day to a child two years old. Digitalis is an excellent cardiac stimulant; it is a tonic as well as a mild diuretic. If the urine is scanty we must use more powerful remedies, such as the hydragogue cathartics. The mineral waters or a solution of the citrate of magnesia will be useful in such cases.

Let us act upon the skin by diaphoretics; and we may use in this connection the sweet spirit of nitre or spirit of Mindererus. Here is a point to which I desire to direct your attention: the sweet spirit of nitre is a powerful diaphoretic; it is a cardiac and cerebral stimulant; it stimulates the secretions of the stomach, salivary glands, and pancreas when administered internally. If you administer it and at the same time keep the surface of the body warm, it will act as a diaphoretic; but if the surface be kept cool, then it will act as a diuretic instead.

If the urine is nearly suppressed and there are premonitory symptoms of uræmic convulsions, you may use pilocarpine (the active principle of jaborandi). It may be given hypodermically or by the mouth. It is a powerful diaphoretic; it increases salivation, and is eliminated by the skin. It is a useful remedy to employ in urgent cases. We may also prompt the bowels by the use of podophyllin, and add to it the mild chloride of mercury. You may use croton oil, one-half or even one drop for a child three or four years of age. It will have a marvellous hydragogue effect in cases of uræmic convulsions.

To recapitulate: Let us not endeavor to break up an attack of scarlet fever, but rather be content with enforcing rigid preventive, hygienic treatment, using mild measures in mild cases; simply controlling the febrile action and temperature; supporting the patient; preventing complications, and curing them when they occur.

THE Annual Meeting of the American Surgical Association was opened with an address by the President, Professor Hunter McGuire, on the 11th instant, in the city of Washington. A report of the proceedings will appear in the next issue of the *Medical Times*.

ORIGINAL COMMUNICATIONS.

DIPHTHERIA.

Read before the Somerset County (Maine) Medical Association

BY A. E. FARNHAM, M.D.,

President of the Association.

LAST spring, during the month of April, diphtheria broke out in the village of East Madison, and for about three months the disease was endemic and raged with great fury. There had been no cases of the disease in the place for several years, and none was known to be about when the fatal malady made its appearance. It was limited to the village, and although people came to the place to trade, and in some instances to nurse the sick, no case occurred outside. The village and town had always been remarkably free from sickness, and there had been no prevailing disease prior to the outbreak. The sanitary condition was good, and the condition of things the same as usual when the disease made its appearance. At my request, Dr. A. G. Young, of the Maine State Board of Health, made a visit to the place, and after a careful investigation declared that the sanitary condition of the village was good and about the same as other small villages in Maine. Why we should have such a fatal form of the disease, and why it should rage as it did, neither Dr. Young nor any one else could tell. But rage it did, and spared neither old nor young. Death followed death till home after home was filled with mourning and the inhabitants were well-nigh panic-stricken. Physicians from far and near were called, but the disease swept on unchecked, and seemingly uninfluenced by treatment. It finally disappeared as suddenly as it came; but what waste of life it had wrought!

I had attended diphtheria in my practice, and seen much of it in city and country, and knew it was a fatal disease in many cases, but must say that, if I learned nothing else during this last terrible siege, I have learned to dread and fear diphtheria.

Just prior to the onset of the disease there were many cases of sore throat and tonsillitis, attended in some cases by considerable fever and prostration; and some of those thus affected afterwards thought that they had had the disease, "only a little lighter." But this was a mistake. When diphtheria is prevailing, these cases of sore throat are often called diphtheria. This sore throat is catarrhal, and is ushered in by a chill; the patient feels ill, and constitutional disturbances are experienced; but it is not to be recognized as a case of diphtheria unless you find an *exudation*, which is the great diagnostic feature. The sore throat may be ulcerative, but should not be mistaken for the membranous exudation of diphtheria. There is an occasional pseudo-membranous exudation in other diseases. For instance, croupous laryngitis resembles diphtheria as regards exudation, but not in the severe constitutional disturbances which are found in the latter, because croupous laryngitis is a local disease.

All diseases have a favorite place of attack: gout the big toe, typhoid fever the intestines, etc. Diphtheria attacks the mucous membrane, generally of the pharynx, but it may attack mucous membrane anywhere, as in the posterior nares or rectum, or it may attack an abrasion. A change takes place in the mucous membrane. There is congestion, but not active. The membrane is dark-colored, bluish rather than red. It may be purple; and it quickly becomes swollen. Changes take place first in the epithelium and subepithelium. This change is an infiltration of granular matter. The infiltration may go on beneath the epithelium, and involve the mucous and submucous tissue. The exudation is generally of a dirty yellow or leaden color, but may be stained by medicine or by matters vomited. This exudation is not a false membrane, but the different layers of epithelium or mucous tissue swollen and raised above the level.

What is this exudation? One author says it is granular fibrine, another holds that there is no cellular exudation. The exudation is of low power, and has no power of organization. The micrococci theory many of the best authors believe false. True, the parasites are found in the exudation soon after it has been removed, but are due to degeneration of tissue. They form in the exudation afterwards, as in other morbid conditions. Whatever the exudation is, it cannot be absorbed, but must be removed by a gangrenous or sloughing process. The exudation, when swept off or forcibly removed, returns. It should never be removed by force. Escharotics should not be used, for this rea-

son. If the infiltration be rapid and severe, so much tissue may break down and become gangrenous that death may result from septicæmia.

Early in the disease there are important blood-changes. The spleen becomes soft, liver congested, stomach disturbed, and there are changes very like typhus fever. I believe the disease is contagious in a degree, and I believe it is spontaneous. I formerly believed that poisoning took place from the exudation; but if it does take place in this way, I am now convinced that it is not always so. The disease is constitutional before it is local. The poison is introduced into the system through the lymphatics. The symptoms are best considered under two heads, constitutional and local. The constitutional symptoms, like the local, may be mild or severe. The constitutional symptoms do not always correspond to the local symptoms in mildness or severity. When diphtheria is ushered in with a chill and severe symptoms, it generally terminates quickly. There is often paralysis of the pharyngeal muscles, and when an attempt is made to swallow food or drink it is forced out through the nose. The popular belief is that the throat is filled up; but this is not so. It is not on account of the obstruction in the throat, but on account of the paralysis of the pharyngeal muscles.

As this disease descends into the larynx the symptoms become grave. The voice changes; it becomes hoarse, and finally dwindles to a whisper; the breathing becomes stertorous, and diphtheria, malignant and terrible, stares us in the face. There is difficulty at first of inspiration, and after a little, as the disease advances and descends into the throat, there will be difficulty of expiration. Some cases, instead of beginning in the pharynx, commence in the larynx; but it quickly spreads to the tonsils and pharynx. It is different from croupous laryngitis. There is an exudation, and around this exudation there is a red line. Whenever there is exudation, sooner or later there is enlargement of the surrounding glands. When resolution takes place, the exudation curls on its edges and is removed by a sloughing process, and under this patch is seen the new cellular exudation. There is a rise of temperature at the outset, but the fever quickly subsides. The temperature is a poor guide in this disease. The pulse is of vastly more importance in making a prognosis in diphtheria. There are no stages in diphtheria, no critical days, etc., as in some other diseases. It follows no regular laws. The diphtheritic poison may be so strong, so severe, that the vital powers are overwhelmed, and sudden death is the result. Some cases live but two or three days; others live weeks, and may finally recover. It all depends upon the amount of poison in the blood. When the tongue becomes dry and brown, and the patient sinks into a typhoid condition, death may result from septicæmia. An irregular pulse is a very unfavorable symptom, and when I find it I am cautious about making a favorable prognosis, even if the patient does not appear very ill. Of course, when the exudation enters the larynx, trachea, or bronchial tubes the case is hopeless.

I shall not discuss the value of tracheotomy in such cases. It is not easy to obtain the consent of relatives to have such a step taken. In the country, tubes of proper size may not be at hand, and if the operation is too long delayed it is useless to think of it. In the cities, where surgical instruments and intelligent assistance are at hand, I have no doubt that many lives could be saved by tracheotomy. But, as before stated, the pulse is the great study in this disease. It is the physician's best guide. A rapid pulse does not necessarily make the prognosis grave, but it does when it is irregular. Vomiting at the commencement of diphtheria is not to be regarded as dangerous, but in the last stages of the disease is very serious. Not at the commencement of diphtheria is delirium to be regarded as dangerous, but it is serious after the disease has run awhile. When delirium occurs late in the disease, it indicates that the kidneys are affected. When the exudation becomes dark and black, the case is dangerous. The brown tongue, the stupor, the typhoid condition, the evidence of overwhelming poison, herald the approach of death. In diphtheria there is danger all around us, on every side, from beginning to end. The patient may apparently be getting along well, and you may think the case on the gain,—friends may all be encouraged and hopeful,—but a few hours may make a great change in the sick-room. This terrible poison may suddenly overwhelm the vital powers, and death will swoop down and snatch its victim from before your very eyes.

There are two great dangers in diptheria: closure of the larynx and septicæmia. There are sequelæ to diphtheria which challenge attention. The most common is paralysis. This shows itself in the pharynx and muscles of the throat. There is difficulty in deglutition and a change in the voice, which has a characteristic nasal twang. This is due to paralysis of the pharyngeal muscles. Oftentimes there is paralysis of the lower extremities, and the patient is unable to stand, or he walks in a weak and unsteady manner. Endocarditis may follow diphtheria.

We often hear of some physician, but more often of some irregular practitioner, who has attended a great many cases of diphtheria and never lost a case. This is disgusting to any regular, or indeed to any intelligent physician who has had experience with malignant diphtheria. If one calls every case of sore throat or tonsillitis or pharyngitis diphtheria, he may be able to boast how many cases he has cured. A case of membranous croup need not be mistaken for diphtheria, because the attack is more sudden and the constitutional symptoms are lacking.

As regards the prognosis in diphtheria, it might as well be confessed that it is a very fatal disease. In epidemics nearly fifty per cent. will die. The first of an epidemic is the most fatal. After a while the disease seems to lose in a great measure its malignant character. The cases grow milder, and after the hardest of the epidemic is over the cases are simply diphtheritic sore throat. There are patches in the throat, and the patient may be quite ill for a few days, but there is not the terrible depression nor severe constitutional symptoms found in real diphtheria.

As regards treatment I shall not say a great deal, preferring to have this part of the subject discussed by the members of this Association in order that I may obtain their ideas and opinions. In the fatal epidemic through which I have just passed I have used both local and constitutional treatment. But the more experience I have had with the disease, the more I have relied upon constitutional treatment. A patient with diphtheria should be put to bed and kept there constantly until the disease has ended, even if the case appear to be a mild one. This should be insisted upon. I believe much danger is incurred by allowing a patient who feels pretty well to get out of bed and move about the room. The room should be well ventilated and kept at a temperature of 65° or 70° F., and the air kept moist by having water upon the stove, or by some way of getting steam into the room. The patient should not be required to open the mouth too often. The throat should be exposed only when necessary. Cleanliness should be insisted upon, also frequent washing of the patient and clothes. Antiseptic measures should be carried out, and the sick-room frequently disinfected. No one should be allowed to go into the room except those needed to care for the patient. I allow my patients to wear a piece of pork around the neck, as it is mildly counter-irritant and is a domestic remedy much in vogue. I prefer salt and lard to the pork, and regard a flannel saturated with spirit of camphor and olive oil as better than either. I have little faith in external applications. Blisters should not be used. The danger is increased by blisters anywhere. Ice may be allowed, and small pieces held in the mouth are very acceptable to the patient. Ice may delay suppuration, but does not arrest it. Warm applications are good because they hasten the suppuration, and this is what we want. The forcible removal of the exudation or patch should be avoided. It is like tearing off the scab from a sore. The membrane or tissue beneath the patch must heal before the patch comes away. When the patch is loose or hanging by shreds and annoying the patient, it may be removed to render him more comfortable and prevent swallowing. The use of escharotics I do not believe judicious. Tincture of iodine and nitrate of silver should seldom, if ever, be used upon the throat in this disease. The time-honored remedy, chlorate of potassium, often does good, and is worthy of further trial. After a few days, in some cases, I think that the use of gargles is harmful. The effort made strains the muscles and puts the case back. In such cases the potassium chlorate tablets, allowed to dissolve upon the tongue, answer the purpose well. Small powders of chlorate of potassium, with pulverized gum arabic or borate of soda, may be used by directing that they be placed on the tongue and the saliva swallowed. Carbolic acid and bromine appear to benefit certain cases. The sulphocarbolate of sodium works like a charm in others. Steaming

with cubebs or a little lactic acid in the hot water relieves the pain in the throat and dislodges the mucus and phlegm. The inhalation of medicated vapors and the use of sprays and atomizers should be resorted to, and especially when the patient cannot successfully gargle the throat. The fluid extract of jaborandi, given in often-repeated doses, will often keep the throat from filling up with false membrane. If a case of diphtheria is seen early, a laxative dose of calomel is often attended with good results. Those who believe in the antiseptic theory of treating disease give the bichloride of mercury. But of all the remedies in diphtheria, iron stands at the head. The tincture of the chloride is the preparation used. It acts in diphtheria, as in erysipelas, as a powerful restorative to the blood. Alcohol in some form may be used from the first, and in some cases is a sheet-anchor, inasmuch as it sustains the strength of the patient. Quinine, in my opinion, in even small doses, does harm, and should not be given.

It is of great importance to feed the patient and keep the nutrition as good as possible. Milk, sometimes containing lime-water, may be given as often as the patient will take it. Meat-broths, eggs beaten up with whiskey and milk, gruel, and any nourishing drink, should be administered as often as every two or three hours, night and day. Often, if the patient is asked if food is wanted, he will reply in the negative. The taste is destroyed, and there is no desire for food, and eating or drinking is painful. Therefore the nurse should not depend upon the sick one to call for food, or even ask him about the matter, but use her own judgment if the attending physician has not left directions; she must carry the nourishment to the patient at regular times, the same as the medicine, and insist upon its being taken.

TUBERCULOUS TUMORS OF THE CEREBELLUM IN A CHILD FOUR YEARS OLD—AUTOPSY AND MICROSCOPICAL EXAMINATION.

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LIZZIE D., aged 4, was admitted to the Children's Hospital, March 17, 1886, for arthritis of the right elbow and on account of a train of symptoms then supposed to be the result of poor food and general neglect. The following family and personal history was obtained. The father was a peddler, and, except for occasional attacks of rheumatism, a healthy man. The mother had been a hard drinker, and six months previous to this date had become insane. Six children composed the family. The eldest was fifteen, but her prematurely-aged face made her appear many years older. One brother had died of Pott's disease. This child, the youngest, had always easily contracted colds, and eighteen months ago an injury caused the existing arthritis of the elbow. Two months before admission the child began to lose the power of her lower limbs, and when admitted she was unable to stand or walk, but the ability to move the limbs remained. At this time no marked ocular symptoms were noted by the attendants, but gradually it became evident that vision was failing, and a thorough examination revealed the following facts. The pupils were of medium and equal size; ordinary objects were not noticed, but a bright light was perceived. The optic disks were oval, white, and filled in; the nasal edges softened and veiled by a grayish haze; the veins were tortuous. The appearances were those of a beginning consecutive atrophy. There was no anæsthesia; the myotatic irritability was not increased. The appetite, digestive functions, and mental faculties were normal. Examination of the urine revealed that it was alkaline, and on standing crystals of ammonio-magnesium phosphate were deposited; sugar and albumen were absent. For a time no new symptoms appeared, but about the beginning of June the child began to fail rapidly.

On June 17 vomiting and obstinate constipation were marked symptoms, and on June 21 convulsions, tetanoid in type, set in and were more or less constantly present until death took place. On the evening of June 22 the breathing assumed the character usually described as Cheyne-Stokes respiration, and about four o'clock in the afternoon of June 23 the child died.

Autopsy.—No unusual external appearances. *Thorax.*—The heart and pericardium and the right lung and pleural cavity showed no abnormalities. On the left side there were extensive pleuritic adhesions from apex to base. The upper lobe of the left lung was small, shrunken, completely

bound down, and, on section, cut like fibrous tissue. *Abdomen.*—Position of viscera normal. The mesenteric glands were slightly enlarged. In the left kidney there was a wedge-shaped caseous (tubercular) mass. In the remaining viscera no gross lesions were discovered. *Brain and its Membranes.*—There were no changes in the membranes over the upper surfaces of the hemispheres. The anterior surface of the brain was flattened, and incision into the lateral ventricles allowed the escape of a large quantity of clear fluid. At the base of the brain the pia mater was injected and spots of opacity were noted, but there was no lymph or pus. In the right cerebellar hemisphere there was an oblong, yellowish-white tumor, six centimetres long, that penetrated the tissue of the cerebellum to the depth of three centimetres, and whose inner end had pushed its way into the central portion of the middle lobe. In the outer part of the left hemisphere a precisely similar though smaller tumor, two centimetres long and one and a half centimetres deep, existed. Well-marked distention of the optic-nerve sheaths, immediately behind the globe, was present.

Microscopical Examination.—The *optic papilla* was distinctly swollen and contained many nuclei. The cross-sections of the vessels showed that they were not shrunken, while their walls revealed some leucocyte infiltration. The retinal layers were displaced. *Optic nerve.*—The sheath of the nerve was greatly distended, and the intervening space occupied by a net-work of nucleated fibres and many free cells. The fibrous septa which separated the nerve-bundles were thickened, and the nerve-bundles themselves were infiltrated with numerous nuclei, while the separate fibres were granular and indistinct. In the fasciculi of the periphery the most marked atrophy was seen. The retinal vessels were oval in cross-section, but normal in appearance. The same pathological changes obtained throughout the entire length of the nerve, and existed also in those portions of the *optic tracts* which were studied. These were, unfortunately, only a very small part of their terminations in the commissure. In a study of some sections of the *chiasma*, especially such as were stained after the manner of Weigert, there certainly seemed to be a very distinct band of fibres across the anterior border of the commissure which connected the optic nerves on either side. This band would correspond to the inter-retinal fibres the existence of which has been denied by recent anatomists.

The tumors.—These were tuberculous masses which had undergone caseation. Scattered through the finely granular tissue of which they were composed were numerous giant-cells, either well formed or affected by the general caseation. Dr. William M. Gray, of the Army Medical Museum, to whom I am indebted for the preparation of many beautiful sections from these specimens, has succeeded in demonstrating tubercle-bacilli in the larger tumor.

In the *pia mater* of the base of the brain the perivascular lymph-sheaths were fully distended with small round cells. In addition, there were extensive extravasations of blood-corpuscles and a general infiltration with young cells. Sections double-stained with carmine and sulpho-indigotate of potash showed particularly well this beginning tuberculous inflammation of the pia mater.

Lung.—In the upper lobe of the left lung very little true pulmonary tissue remained, and the alveolar walls of that which did exist were densely infiltrated with small round cells. The remainder of the lobe was composed of wavy fibrous tissue, through which, sometimes sparsely, sometimes in rich collections, a round-cell infiltrate was scattered. It seemed to be a tuberculous tissue undergoing fibroid change.

It seems useless to do more than report this case as an interesting example of tuberculous disease of the cerebellum. I will, however, briefly recapitulate for convenience the main points.

1. The pathological lesions were: two tubercular tumors in the cerebellum, the larger involving the middle lobe; beginning tubercular meningitis of the base of the brain; optic neuritis, and later consecutive atrophy of the disks; old tuberculous disease of the left lung; a caseous mass in the left kidney, and arthritis of the right elbow.

2. The symptoms were: the general appearances as if the patient had been underfed and neglected; progressive failure in the power of the lower limbs, without paralysis; blindness from the results of descending neuritis; at first normal

appetite and digestive functions, but later vomiting and obstinate constipation; alkaline urine, which deposited triple phosphate crystals; convulsions, tetanoid in type; and for some hours before death Cheyne-Stokes respiration.

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REPORT ON THE PROGRESS OF DERMATOLOGY.

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IN the present report it is intended to give a general review of the progress of dermatology during the past year, as exemplified in the special journals of this country, France, and Germany. The more important contributions made to the general medical journals during 1886 which have not already been noticed will form the subject of a later report.

The address of the President of the American Dermatological Association at the annual meeting last September has attracted general attention, both from the evidences given of advance in the specialty and also from the outspoken manner in which the claims to a fuller recognition of this branch of medicine are advocated.

Ten years ago the Nestor of American dermatology, Professor White, of Harvard University, said, "Every day we see in the out-patient department and elsewhere cases which we know are requiring attention they will not, cannot receive at home; cases which, without restraint and peculiar management, last indefinitely and spread disease; cases which entail horrible consequences upon others; all of them sure of more rapid and certain recovery if they could receive such hospital care; some of them as surely doomed to years of misery and even speedy death because they do not obtain it. Those who, from love to their fellow-men or pity of their bodily woes, have left large endowments for their care in sickness, they who make generous appropriations from the wealth of States and cities for the treatment of disease among the poorer classes of society, certainly have intended no such arbitrary distinctions. It is not they who have ordained that a fever or a fracture shall have the best chance of recovery by proper nursing and the most eminent professional attention, while an inflammatory or destructive process of the integument shall be debarred from both. There is neither reason nor justice in such action, and they who control the government of such institutions have much to answer for for such unequal distribution of hospital charity."

". . . As now managed nearly everywhere among us, these institutions refuse to a large class of sick persons the benefit of hospital residence either wholly, or offer them, if received, not, we may fairly say, the best medical skill it is in their power to procure."

These stinging words are, unfortunately, almost as true to-day as when they were uttered ten years ago. We have only to look at our hospitals in Philadelphia to-day to see how inadequate—or rather how entirely absent—are all means for the treatment of all diseases of the skin, even such as scabies and pediculosis, so easily cured and yet so torturing to their wretched victims; and how indifferent apparently are their managers to the obtaining of skilled physicians to treat this class of diseases.

The address of Dr. Wigglesworth points out the various needs of dermatology and suggests the means for their attainment, and is altogether a valuable document not only to the specialist in skin-diseases, but to every intelligent physician desirous of measuring the aims and methods of a large and intelligent body of scientific men in his own profession.

When we cast a glance over the general field of dermatological literature for the year 1886, we are somewhat surprised to observe how great attention has been given to a single class of diseases,—namely, the new growths, and particularly lupus vulgaris and leprosy. In the German journals, out of thirty-two original articles (aside from those on therapeutics), no fewer than fifteen were upon the diseases of this class, seven of which were upon the diseases mentioned. In the French *Annales*, out of thirteen articles five were upon new growths, of which one each was upon the diseases mentioned. In the *American Journal of Cutaneous and Venereal Diseases*, on the other hand, out of thirty-two articles only one could be taken as belonging to this class, while fourteen belonged to the class of inflammatory affections.

This contrast shows both the greater

frequency of such affections as lepra, lupus, tuberculosis of the skin, and syphilis abroad as compared with this country, and also the greater interest manifested in France and Germany in the study of questions of etiology and pathology, the attention of our physicians being somewhat more occupied with what are called "practical" questions.

LEPROSY.

The question of the nature and treatment of leprosy continues to occupy much attention both in Germany and in France. In Germany, Unna has been foremost in both pathology and therapeutics, and we most cordially second the wish expressed by another writer, "that his initiative and his arduous endeavors may succeed in substituting for the indifference with which leprosy with all its extensive and increasing diffusion is generally regarded a warm interest in its investigation and cure."

In 1885 Touton published an article on the localization of the bacillus lepræ, maintaining that its seat was in the cells. The peculiar nidus for the development and colonization of the lepra-bacillus is the protoplasm of the cells, and the greater number of all bacilli lie, as has always been supposed, in larger or smaller agglomerations within the cells. These bacillus-agglomerations are therefore not themselves cells, but only parts (inhabitants) of cells. Those agglomerations of bacilli found at large were originally contained in cells. To this Unna rejoined in an article too highly technical to reproduce here even in abstract, and ended by asserting categorically that "lepra-bacilli are never contained in the cells of the tissues."

At the beginning of last year Unna returned to the question in a supplement to the *Monatshefte für Dermatologie* for January. In the introduction to his article he says that we can scarcely find in human pathology a second example of so lavish an abundance of parasitic life in organs remaining so comparatively healthy, and for that reason we can judge better here than under any other circumstances of the physiological relationship between the bacilli and the human tissues.

After giving his method of histological procedure, Unna goes on to discuss the distribution of the bacilli in the skin, their occurrence in the blood-vessels, the convoluted glands of leprous skin, the examination of tissue-juice, where he finds no cells, but plenty of bacilli and agglomerations of bacilli in confirmation of his former views; asks the question, Has the bacillus lepræ a movement of its own? which he answers tentatively in the negative, or at least as "not proved;" the behavior of the bacillus in pus, which he thinks causes atrophy; the nature of the "vacuoles," which he considers thin portions of the cell-agglomerations; and finally winds up his admirable monograph with the following conclusion:

The leprous tubercle is an infectious tumor, to be included among the infectious hypertrophies. Among these it occupies a very peculiar position in that its chief bulk is made up of micro-organisms; it is therefore to be regarded as a bacillar tumor, in which the tissue-changes play a subordinate part.

Unna intends to return to the subject later, in order to discuss the normal issue of this tumor, the atrophic changes in the bacillus, as well as in the cutaneous tissues.

In the same supplement to the *Monatshefte* Lutz adds a brief paper upon the morphology of the micro-organism of lepra.

The question of the contagiousness of leprosy is one of the highest interest, but it seems as far from settlement as ever, in spite of the numerous contributions to the subject which have appeared during the last few years. Two contributions have been made to the subject, however, which are worthy of a brief note. One is in the form of a series of experiments by George Thin, which were undertaken under the auspices of the British Medical Association, but which we find published in the *Vierteljahrschr. f. Derm. u. Syph.*, vol. xiii., 1886, p. 337. Thin cut out small pieces of leprous skin proved such by microscopic examination, and implanted them in the cornea and the skin of healthy apes, cats, etc., but with a negative result, since the animals perished from intercurrent disorders in no way connected with the inoculation. Thin thinks the experiments had not a fair chance. When it is considered how long a time elapses between the perhaps temporary stay of a human being in a leprous locality and the outbreak of the disease in his body after his return to a healthy region, the failure of inoculations in animals must not be re-

garded as conclusive until such animals shall have been kept a series of years under observation.

The second paper bearing on this subject is that of Paulsen (*Monatshefte für Dermatologie*, vol. v., 1886, p. 8), which is simply a brief history of a single case, but which is of especial interest because of the demonstration of the presence of bacillus lepræ in some of the secretions. The patient, among various symptoms, showed narrowing of the upper air-passages by thickening of the lining membrane, which was pale red and covered with muco-purulent secretion. On the bony septum nasi were prominent ulcerating tubercles. Other ulcerative lesions of the mucous membrane of the naso-pharyngeal region were also present. The mucus exuding from these localities was examined by Paulsen, who found bacillus lepræ in large numbers. In the detritus from the ulcerating tubercles in the nose bacilli were found in agglomerated masses looking like cells, but distinct entirely from the cells of the tissues. This observation points out one way at least in which leprosy can be conveyed.

Although belonging to an earlier date than the beginning of last year, Unna's contribution to the therapeutics of leprosy is of such importance in this connection that it may well be added here. It is from the *Monatshefte* for 1885, and is concerned with a well-marked case of leprosy which came under Unna's care and was treated successfully. From his experience with this case, Unna concludes that tubercular leprosy, even when generalized and of over a year's duration, can be cured in a comparatively short time by means of combined internal and external treatment actively carried out. The most useful agents are those called by Unna reducing, and chiefly sulpho-ichthyolate of ammonia, chrysarobin, pyrogallol, and resorcin. Ichthyol is to be employed in strong preparations externally, while the inward dose averages fifteen grains a day. Chrysarobin and pyrogallol are too strong for most skins. Resorcin is useful in a twenty-per-cent. ointment, or, better still, in the form of a plaster. It has the advantage of not smelling badly, of not irritating the skin, and of not irritating the eyes. Pyrogallol is a highly energetic anti-leprous remedy. A five-per-cent. ointment is strong enough in general, but when the skin is resistant a stronger ointment or plaster can be employed. Chrysarobin is the best topical application in leprosy, but especial precaution must be used against its irritating influence upon the ocular conjunctiva. In robust persons chrysarobin may be employed on the body and limbs, avoiding the face and hands. In weaker patients the other remedies should be employed until all has been obtained from them that they will give, and the chrysarobin only used in the most rebellious points of disease.

As a corrective against the toxic effects of the various drugs used, particularly the pyrogallol, Unna recommends the internal use of hydrochloric acid in as large quantities as possible, to diminish the alkalinity of the blood. Salicylic acid plaster and carbolated mercurial plaster may be used as adjuvant local remedies.

Finally, Unna is disposed to think that the radical external cure of the leprosy in the case cited was really internal as well as external, for not only was the patient's general condition markedly improved during the treatment, the nutrition returning to its normal state, but this improvement was manifestly due to the internal administration of the salts of ichthyol, the action of which, combined with its external use, is "gently anti-leprous." The remedy can be used indefinitely, without injury to the patient, until the leprous germs are entirely destroyed. As to relapses, these are no more likely to occur than in syphilis, and, unlike this disease, the treatment can do no harm, however prolonged.

LUPUS VULGARIS AND TUBERCULOSIS OF THE SKIN.

Dr. Felix Bloch, assistant to Professor Neisser, publishes an interesting article in the *Vierteljahrschrift* (Heft ii., Jahrg. xiii., p. 201) on the etiology and pathogenesis of lupus vulgaris. Doutrelpont in 1883 first pointed out the existence of a bacillus in lupus, and his investigations were confirmed by others, Koch asserting the identity of this bacillus with that of tuberculosis, and the consequent relationship of the two diseases. A lacuna in the evidence exists in the fact that lupus cannot be produced by inoculation with the bacillus tuberculosis, and perhaps also in the fact that the bacillus of lupus is not found in such quantity as that of tuberculosis in its specific locality, but, on the

contrary, is infrequent even in lupus tissue. Moreover, Kaposi, the most important opponent of this view, brings forward more than six hundred cases of lupus treated by himself, in very few of which could any scrofulous element or history be found, as well as hundreds of scrofulous patients who were not affected by lupus. Moreover, there is such a thing as a true tuberculosis of the skin.*

This argument from clinical observation Bloch endeavors to meet. To do this he combines the statistics of Neisser's clinic at Breslau with those of Raudnitz of Prague and Pontoppidan of Copenhagen. In Neisser's clinic and private practice combined one hundred and forty-four cases of lupus occurred between Easter of 1877 and November of 1885. These are carefully analyzed in Bloch's paper, and compared with the other statistics as to the sexual relations of lupus, time of first appearance, localization, previous disease, complications, heredity, and, finally, the relation between lupus and scrofulosis. With regard to the very interesting statistics given under the earlier of these heads, want of space forbids us to concern ourselves. A few words, however, may be said with reference to the last point.

"If," says Dr. Bloch, "lupus is a tuberculous disease, we must expect frequently to meet with tuberculous lesions of other organs in connection with lupus of the skin." Recent French writers, as Quinaud and Bésnier, assert this to be the case. Demme also, among the Germans, asserts the same thing, and all bring forth statistics to prove their view.

Bloch arrives at the conclusion that three-fourths at least of all lupus patients suffer from other kinds of tuberculous affections, and in one-fourth of these the tuberculous disease showed itself before the outbreak of lupus.

Leloir, in a clinical lecture (*Annales de Dermatologie et de Syphiligraphie*, t. vii., 1886, p. 328), gives the account of a case, occurring under his own observation, where a lupous nodule of the hand became the origin of a tuberculous lymphangitis, with the production of scrofulo-tuberculous gummata along the track of the affected lymphatics, and, finally, as a result of absorption of tuberculous virus by the lymphatics of the upper limb, gave rise to pulmonary tuberculosis on the side affected. In other cases Leloir has observed reticular erysipelatoid lymphangitis, presenting itself under the form of "white erysipelas" ("scrofulous erysipelas"), appear to play a prominent part in the absorption of the virus. He gives his own statistics, and declares himself a firm believer in the fact that true lupus vulgaris is one of the forms of cutaneous tuberculosis.

Sachs (*Vierteljahrschr. für Derm. u. Syph.*, Bd. xiii., 1886, p. 241) gives the statistics of one hundred and sixty-one cases of lupus treated at the Heidelberg clinic, of which he was able to get an exact history in more than one hundred. The result of his examination agrees with Bloch's statements, particularly with regard to the frequent occurrence of lupus in connection with tuberculosis of other organs than the skin.

LUPUS-CARCINOMA.

That carcinoma may develop in and from lupous tissue has long been known, though the cases on record are few in number. Winternitz, assistant in Pick's clinic in Prague, adds notes of a recent case (*Vierteljahrschr. f. Derm. u. Syph.*, Bd. xiii., 1886, p. 770). It was that of a man, of 45, suffering with diffuse redness of the face, except the nose and forehead, and extending to the right ear, the neck, and the back just about the neck, the surface showing numerous lupus nodules and scars. Various patches of lupus could also be observed over other portions of the body and limbs. On the side of the face, not far from the malar prominence, was a tumor, which, being removed and examined, showed the microscopic appearances of carcinoma. Removal with the knife was followed by rapid healing, and six months later the carcinoma showed no signs of return, although the lupus continued to spread.

TUBERCULOSIS OF THE SKIN.

Riehl and Paltauf (*Vierteljahrschr. f. Derm. u. Syph.*, Bd. xiii., 1886, p. 19) describe an unusual affection occurring commonly on the back of one or both hands, and occasionally also on the extensor surface of the fingers or between the fingers, but rarely on the palm or on the adjoining portions of the wrist. The erup-

* Of course, lupus erythematosus is not taken into consideration, being an independent affection.

tion resembles a patch of lupus, being made up of dull brownish-red pea-sized to coin-sized papular lesions, often grouped in circinate or serpiginous forms, and spreading by the addition of new lesions on the periphery. As the lesion develops, a warty or papillomatous condition forms, particularly in the centre of the lesion, and occasionally superficial pustules form, so that the lesion takes on a crusted appearance, and when the crusts are removed pus wells up from sieve-like openings beneath. The lesion gradually dries up, becomes smooth and flat, and atrophied or scar-like in the centre, while the periphery may continue to develop.

The subjective symptoms are slight. At the height of the disease there is a feeling of tenderness on pressure, sometimes amounting to extreme sensitiveness. The progress of the disease is slow, with stationary intervals. It may be quite extensive, covering the entire back of the hand. More frequently months may pass without any perceptible alteration in the size of the lesion.

The diagnosis of tuberculosis verrucosa cutis must be made by regarding the course of the disease and the various lesions as a whole. Neither the red external ridge frequently covered with pustules, nor the papilloma with its horny covering above and deposits of pus at the base, nor the subsequent cicatricial condition, can be regarded as characteristic, although not occurring in any other affection in the same order and with the same clinical picture.

Lupus verrucosus always gives rise to circumscribed centres of infiltration in the form of brownish-red tubercles, characterized by their comparatively soft consistence and absence of acute inflammatory symptoms. In tuberculosis verrucosa cutis the circumscribed tubercles are absent, and each fresh exacerbation is accompanied by inflammatory symptoms. In addition, there is no tendency to ulceration of the older lesions, such as exists in lupus.

Inflammatory papilloma from injuries or badly granulating wounds are to be distinguished by their varied locality according to the injury, by the absence of inflammatory symptoms, and chiefly by the less acute course followed.

Papilloma following syphilitic lesions, with framboesia-like symptoms, may be distinguished from the affection under consideration by the thick infiltration about the borders and the characteristics of the syphilitic ulcer.

From lupus it is distinguished by the lesions disappearing under pressure, while the nodules of lupus show yellow under the skin as the finger is drawn firmly over them. In addition, lupus generally begins in the young, while the disease under consideration is one of adult life.

The inflammatory papilloma of the skin of Roser and Weil is quite different in appearance and locality.

Leloir's "Perifolliculite suppurée et conglomérée en placard" (*Annales de Derm. et de Syph.*, v. 1884, p. 436) closely resembles Riehl and Paltauf's affection, and they think is a variety of it. They also consider verruca necrogenica as a closely-allied affection.

Pathologically by histological arrangement of the tissues, as well as by the presence of the bacillus tuberculosis, the nature of the disease is settled and its name justified.

The treatment of the disease consists either in excision by the knife, scraping with the curette, or burning out by some appropriate caustic, as caustic potassa, either with or without previous scraping. The wound is afterwards to be healed up under pyrogallic acid or iodoform.

Chiari reports (*Vierteljahrschr. f. Derm. u. Syphilis*) an almost unique case of extensive tuberculous ulceration of the vulva and vagina. The patient was a married woman, of 30, who had never borne children. Dying of some intercurrent disease, Chiari had the opportunity of making a post-mortem examination. He found a large irregular ulcer, with infiltrated irregular, sharply-cut borders, on the right labium, running up to the clitoris and beyond, and extending into the vagina. The ulcer presented the characteristics of tuberculous ulcers, and several other similar lesions were found in the vagina and anus, with numerous enlarged and cheesy glands about the pelvic region.

The affection is to be distinguished from epithelioma and lupus. A microscopic examination showed abundant bacilli tuberculosis.

(To be continued.)

THE Committee on Arrangements announce that proper arrangements have been made to accommodate the various Sections of the International Congress in Washington.

TRANSLATIONS.

HYDATID CYSTS OF THE LIVER.—M. Baudouin in a late paper laments the tardiness of his fellow-countrymen in adopting the modern improvements in abdominal surgery, particularly in regard to the surgical treatment of hydatid cysts of the liver. This question was not seriously considered in France until it was brought before the Surgical Society in 1885.

Acupuncture, formerly recommended by Trousseau, is now rarely employed. Electrolysis, as advocated by Hernot (of Reims), is scarcely any more popular. Simple puncture of the cyst, puncture followed by the injection of some antiseptic fluid, multiple punctures, multiple punctures with incision, simple incision with drainage, and aspiration have all been employed and praised by particular operators, but none have given perfect and universal satisfaction. Boinet was the first to introduce the method of making simultaneously two punctures into the cyst by means of a curved trocar, which was left *in situ* for a few days, and then uniting these two punctures by means of a deep incision made with a bistoury. Boinet's method itself is not employed at the present time, but it has been revived and modified in the various methods of Simon, Verneuil, Kuster, and Hirschberg. Simon made use of *two* fine trocars, left *in situ* for a few days, and as soon as pus began to appear in the fluid evacuated from the cyst he laid open the sac with an incision uniting the two punctures made by the trocar, and injected it with some antiseptic fluid. Verneuil substituted two large trocars for the two fine ones of Simon, and instead of leaving them in place for a few days he used red caoutchouc sounds selected to fit exactly the punctured wounds. Kuster returned to the single curved trocar of Boinet, but modified it with a small opening at the middle of the convex portion. Then about the seventh or tenth day he replaced the cannula with a ligature gradually tightened down upon the parts lying between the two original punctures. Hirschberg endeavored to assure himself more positively of adhesion between the walls of the cyst and of the abdomen by making a number of punctures in the same straight line. We see in all these various methods of the past the tendency from the simple puncture to the free and open incision. It was reserved for Recamier at the age of sixty to assert the superiority of the latter over the former procedures.

Besides the well-known complications, such as urticaria, suppuration of the cyst, abscess of the liver, peritonitis, septicæmia, pulmonary embolism, as well as the possibility of auto-infection through the hepatic vessels, and even of sudden death from a vesicle lodging in one of the cavities of the heart (such a case is reported), the method by puncture does not assure us of a radical cure. We gain nothing by the use of the punctures before making the incision, but we lose much valuable time while waiting for the mural adhesions. It is quite as safe, if not safer, to make an incision, under proper antiseptic precautions, directly through the walls of the abdomen, and sufficiently large in the very beginning, as to have recourse to the production of adhesions by means of punctures.—*Le Progrès Médical.*

OBSERVATIONS UPON NARCEINE.—M. Laborde has been performing some experiments with a specimen of narceine furnished him by M. Duquesnel, who claims that it is almost absolutely chemically pure. At least it contains no morphine nor codeine. Given to animals, it produces a calm sleep, and is tolerated perfectly by the stomach. In doses of 0.02 centigramme in pill form, it overcomes insomnia. In half-centigramme doses it suppresses the spasmodic coughs of pertussis in children. Furthermore, the narceine furnished now by Duquesnel retains all its effective properties without having to increase the dose.

PHOSPHATE OF LIME is strongly recommended by Dr. Rebory for the night-sweats of phthisis. M. Potain, and after him Dr. Rebory, employ the tricalcic phosphate in doses of four grammes, often necessarily increased to eight and fifteen grammes. The excellent results obtained are attributed by Dr. Rebory to some special action of the medicine upon the perspiratory apparatus. It would seem more likely that the general improvement in the condition of the patient brought about by the phosphate should be the reason for the diminution in the night-sweats, one of the symptoms most indicative of the great debility of persons subject to phthisis. L. H. M.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 14, 1887.

EDITORIAL.

THE IMMEDIATE CAUSE OF SUPPURATION.

THE infectivity of pus and the nearly constant presence of micro-organisms in the products of suppuration have been pretty well established by a large number of experiments. The absolute dependence of suppuration upon the presence of certain organisms has, however, not been generally accepted, although regarded as probable by a considerable number of observers. A recent research undertaken with the intention of determining this point may therefore be of interest to our readers.

Zuckermann, of the University of Kasan, introduced antiseptically into the tissues of white mice, dogs, and rabbits glass tubes containing sulphuric, nitric, acetic, hydrochloric, carbolic, chromic, lactic, and trichloracetic acids, caustic ammonia and potash, cupric sulphate in concentrated solution, mercury, bromine, chloroform, oil of turpentine, tincture of jequirity, croton oil, tar, oil of pine needles, and creasote. Out of thirty-nine experiments, nine only were followed by suppuration. In one of these the material introduced, sulphuric acid, had burnt through the skin, while in a second primary union of the wound had not followed, and secondary infection was possible. The seven remaining cases where suppuration had followed had been inoculated with oil of turpentine, tar, croton oil, bromine, and chloroform. The result in these instances is attributed to the non-sterilization of the materials used.

In another series of twenty-two experiments, pus was formed in only one case, in which non-sterilized croton oil was the inoculating material.

As regards the organisms found in pus, Zuckermann also instituted a series of observations. Microbes were found in the pus of thirty-eight abscesses examined. He collects all observations hitherto made by Rosenbach, Passet, Ogston, Hoffa, Triconi, and others, and, adding his own, finds that in four hundred and ninety-five abscesses staphylococcus pyogenes was present in seventy-one per cent., streptococcus pyogenes in sixteen per cent., and the two combined in 5.5 per cent. Other pus-organisms were found only exceptionally. In four inoculations of pure cultures of staphylococcus pyogenes aureus (by rubbing the same into the skin) an acute abscess was obtained in every case.

The conclusions reached by Zuckermann are that chemical, mechanical, or thermic irritants, if free from micro-organisms, cannot produce suppuration; that the cause of suppuration is one or more of the following organisms: staphylococcus pyogenes aureus, albus, and citreus, streptococcus pyogenes, and in putrid abscesses, bacillus pyogenes fœtidus; and that staphylococcus pyogenes is more frequently present in pus than the other organisms mentioned.

CONCERNING HYSTERIA FOLLOWING TRAUMATISM.

A work recently published, which receives notice on another page, treats upon the interesting subject of traumatic hysteria, or, more correctly speaking, of the hysterical manifestations, such as anæsthesia, paralysis, contracture, etc., following injuries of various sorts. In it the author, Dr. Paul Berbez, says, "The true cause of the hystero-traumatic phenomena is evidently a special condition of the patient's mind; the occasional cause (the traumatism) possessing only slight importance. This condition is not a pathologi-

cal rarity, and if surgeons would study the motility and particularly the state of the sensibility after the reduction of luxations, contusions, etc., they will very probably find a host of cases similar to ours." The symptoms are all of the kind common to hysteria, and are usually met with in patients who have had in their previous history more or less evidence of mental aberration, though this is not an absolutely necessary condition.

In order to study the mechanism of this nervous manifestation, the author takes into consideration three things: (1) the mental condition of the patient at the moment he receives the shock of the injury; (2) the immediate effect of the shock; and (3) the workings of the mind after the shock. "When we shall have studied these three sides of the question, we will without difficulty, we think, be convinced of the following fact: hystero-traumatic paralyses and contractures are in every respect similar to the paralyses and contractures, painful and non-painful, which may be produced in hypnotics by simple suggestion." Indeed, the paralyses are far from being due to either a neuritis or functional disturbance of the nerves: "the injury," he says, "whatever it may be, overclouds the perceptive faculties of the mind; the mind reflects upon the injury as the cause of the inability to move the part, accepts uncontrollably the suggestion of the absence of the injured member, and suppresses more or less abruptly all ideas which it possesses relatively to that member."

RESECTION OF THE PYLORUS.

THE fact that in more than half of the cases of gastric carcinoma the morbid growth is confined to the pylorus and its immediate vicinity, and that autopsies have shown that of the latter a very large number would be amenable to treatment by removal, fully justifies the operation of resection of the stomach in such cases, as first performed by Billroth. The grave prognosis of cancer of the stomach lends further warrant to the performance of this operation, and justifies exploratory laparotomy when there is even a fair probability that the malignant disease is circumscribed and in a favorable condition and position for removal.

In a paper read before the Academy of Medicine in Ireland last February, Dr. McArdle reported a case of this kind, in which, however, the patient died of exhaustion four hours after operation.* In reviewing the subject he showed from statistics of thirteen hundred and forty-two cases of cancer of the stomach that the disease was confined to the pylorus in eight hundred and two, of which four hundred and ninety-six cases were suitable for operation, as there was no involvement of neighboring glands or adhesion to adjoining viscera. He collated the records of seventy cases of pylorectomy, of which sixty-two were for cancer, with thirty-five deaths; eight for simple stricture, with three deaths. The higher mortality of the former was attributed to the frequency of extensive adhesions delaying the operation. These adhesions were studied with regard to locality, and it was found that, in two hundred and eighty-nine cases, the tumor adhered to the pancreas in one hundred and thirty-two, the omentum in eighty, the transverse colon in seventy-two, the liver in four, the small intestines in one. These points of frequent attachment should be taken as landmarks in digital exploration of the pyloric region. He considered operation justifiable under the following conditions:

1. In irritable and intractable pyloric ulcer leading to spasmodic stricture.

2. In simple fibrous stricture.

3. In circumscribed cancer without adhesion to pancreas or transverse colon.

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* The Medical Press and Circular for April 20, 1887.

THE proprietors of the *Medical and Surgical Reporter* have made arrangements with Drs. N. A. Randolph and Charles W. Dulles to carry on the editorial and business management of the *Reporter*, and also the "Quarterly Compendium and Physician's Pocket-Record." The new arrangement went into effect on the 1st instant. The office of their publications has been removed to the northeast corner of Thirteenth and Walnut Streets, Philadelphia.

DR. J. MILNER FOTHERGILL, of London, will give three lectures on the "Modern Tendency of Disease" at his residence on June 2, 9, and 16, at 4 P.M. Members of the medical profession admitted on presenting their cards. Physicians from America will be especially welcomed.

THE State Assembly of Wisconsin has just appropriated fifteen thousand dollars as a contingent fund to be placed at the disposal of the State Board of Health, to be used in preventing the introduction of cholera into Wisconsin.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

CROONIAN LECTURES AND ORIGINAL RESEARCH—AMELIORATION OF DEATH-RATE IN ENGLAND—BRAIN-SURGERY—LECTURES ON FEVER—CONGENITAL DISLOCATION OF THE HIP—LAWSON TAIT ON SALPINGITIS—DRUMINE—FEES TO MEDICAL WITNESSES, ETC.

THE Royal College of Physicians of London has adopted a scheme for the management of the Croonian Trust which practically amounts to an endowment of research, on, it is true, a very modest scale. The annual income of the Trust Fund has been suddenly raised, by the falling in of leases, to a little over two hundred pounds a year. Up to the present time the Croonian lecturer has delivered three lectures, generally on some topic which had been a favorite study with him, and has received a small honorarium. Very often the lectures have been an excuse for writing a little book, and on the whole the general effect has been to give an opportunity for stating opinions and observations which would have found an outlet in clinical lectures, papers at societies, or addresses to associations or congresses, rather than to stimulate special original inquiries. Under the new scheme the lecturer's honorarium will be one hundred guineas, while a similar sum will be placed at the disposal of "a past or present Croonian lecturer" to "be employed for original investigation."

The "Annual Summary" recently issued by the Registrar-General affords strong evidence that the death-rate in the principal British towns is continuing to decline, and proof that it still remains considerably lower than that of the principal towns in any other country in the world. The death-rate in the twenty-eight chief towns, including London, was 20.9 per thousand. London itself has a death-rate below the average: in 1885 it was 19.8, and in 1886, 19.9 per mille. It is possible, however, that the true death-rate is a little higher than this, for it is six years since the census was taken, and there is some reason to believe that London has not been growing so rapidly during the last six years as during the previous decenniad. When all deductions, however, are made, there can be no reasonable doubt that the death-rate of London is very considerably lower than that of Berlin, Paris, or even New York. In a paper read to the Statistical Society, Mr. Noel Humphreys, of the Registrar-General's Office, has attempted to supply some new data with regard to class-mortality. He showed once more that the factor which controlled the rates both in population and classes was the child-mortality: thus, the annual death-rate among children under five years of all classes is believed to be sixty-one per mille, while in the "upper"—that is to say, wealthier—classes it is only about twenty-eight per mille. Mr. Humphreys was able to show that children born in the Peabody buildings have a better chance of surviving than those belonging to the same class but born in tenement-houses. This advantage is attributed to more effective sanitation; and if the term sanitation be understood in a wide sense, as expressing all the surroundings of an infant, the statement is indisputable. But if understood in a narrower sense as referring to drains, then it is only just to point out that it is the best—that is, the most steady, industrious, and intelligent—artisans who secure rooms in the Peabody dwellings, for which there is a keen competition, and that of course people of this kind take far more care of their children than the idle and intemperate. This opinion finds confirmation in the statement that the annual mortality among children under five years of age in the "general service class" is five times as great as among children of the same age in the "professional and independent class:" it would surely be to ride a hobby to death to

attribute the whole of this enormous difference to the influence of good or bad drainage alone, for this reason, if for no other, that the drainage and water-closets in the houses of the well-to-do are often as bad or worse than in the poorest tenements, where the Sanitary Inspector is omnipotent.

Mr. Victor Horsley has now published statistics of the first ten cases in which he has operated on the brain. The first operation was performed on May 25, 1886, the last on December 17, 1886. Two of the patients have died: one six months after the operation, from recurrence of the tumor; the other nineteen hours after the operation, which was performed as a last resort in a hopeless case of wide-spread paralysis due to cerebellar tumor. As to the wound, immediate union took place in every case, excepting of course the patient who died in nineteen hours. Mr. Horsley is thus fully justified in claiming that the operation of exposing and removing considerable portions of the brain is not to be ranked among the "dangerous" procedures of surgery. Before operating, morphine is administered, and it is found necessary to use very great care in the subsequent inhalation of chloroform, as dangerously deep narcosis may easily be induced, especially in children; the object of giving the morphine is to produce contraction of the cerebral arterioles in order to diminish hemorrhage. Special care is taken to fashion the scalp flap (for the old crucial incision is abandoned) so as to preserve either the temporal or the occipital arteries, and the periosteum is reflected along with the cutaneous structures. The bone is first of all attacked with the trephine, and the aperture in it is enlarged with a circular saw driven by a "surgical engine" (dentist's). After excising the tumor, cyst, or cicatrix, the flap is replaced and completely sewn up, except for one inch at the most dependent part, where excess of fluid can drain away, but a drainage-tube is not used. "I am more than ever convinced," says Mr. Horsley, "that the arachnoid, like the peritoneal cavity, may be trusted to absorb excess of fluid." Strict Listerism is observed for the first four or five days, or until the wound is healed.

The Gulstonian Lectures this year at the Royal College of Physicians were given by Dr. Donald MacAlister, of Cambridge. He is one of the few Senior Wranglers who ever took up medicine, and this course of lectures on the nature of fever makes one regret that fashion has led his predecessors almost without exception to become lawyers or schoolmasters. It would be impossible here to analyze the whole of his argument: it will suffice to indicate in general terms the position which he took up. He looked to the nervous system for an explanation of the phenomena of pyrexia: the body-heat is controlled by a triple nervous mechanism,—(1) the thermolytic or discharging mechanism; (2) the thermogenic or producing mechanism; (3) the thermotaxic or regulating mechanism. Relying on Dr. Hughlings Jackson's pregnant hypothesis, and employing his useful phraseology, Dr. MacAlister shows that the thermolytic is the lowest and the thermotaxic the highest level of development. In cold-blooded animals there is only a thermolytic mechanism; in young mammals the thermotaxic or regulating mechanism is imperfectly developed: a child's temperature is unstable, easily driven up, and almost as easily brought down. In ordinary fever there is a disorder not only of the regulating, but also of the thermogenic, the producing mechanism; when to this there is added a disorder of the discharging mechanism,—when, that is to say, the thermolytic lags behind the thermogenic, thermotaxy being also disordered,—then there is hyperpyrexia. Disorder of the regulating apparatus will produce paradoxical pyrexia, the so-called hysterical fever. In his discussion of the thermogenic apparatus, Dr. MacAlister relied to a great extent on the recent experiments of Professor Wood.

The two other courses of lectures at the Royal College of Physicians lend themselves even less readily to discussion here: both, it is true, dealt with questions of vast practical importance and great pathological interest; but both Dr. Broadbent (in treating of the pulse) and Dr. Priestley (in discussing an intra-uterine death) handled subjects which bristled with details and do not conduct to simple generalizations.

A series of specimens of the so-called congenital dislocation of the hip were exhibited at the last meeting of the Pathological Society here, and gave rise to an interesting discussion. On the whole, the evidence is very strong that the displacement is a congenital deformity due to imperfect development of the bones entering into the joint, but especially of the innominate. In all the specimens the acetabulum was deformed and had an imperfect lip. Dupuytren has recorded one case in which the deformity was transmitted from parent to child, and Mr. Howard Marsh during the discussion mentioned the case of a mother and child who both presented the displacement on both sides. It would seem probable, however, that in a few cases a true dislocation may be the consequence of an attack of the "acute arthritis of infants." When recovery takes place from this somewhat rare disease,—a very rare event, therefore,—the joint may be left in a condition of disorganization, which gradually settles down into a quiescent condition closely simulating congenital deformity. Lastly, it must be remembered that the condition might be congenital and yet not be due to improper development, but to intra-uterine inflammation.

Three cases in which a coil of wire was introduced into an aneurismal sac were reported to the Royal Medical and Chirurgical Society. In one case the aneurism was ab-

dominal, and laparotomy was performed. After about a foot of wire had been introduced it kinked, and the operation had to be abandoned; the patient died on the fifth day. In another case thirty-two feet of wire were introduced into an aneurism of the arch of the aorta; the patient died on the twelfth day. In the third case thirty-three feet of wire were introduced into a subclavian aneurism; the patient lived a fortnight. In all three cases the greater part of the clot formed would seem to have been loose, and in the third case mentioned it was very small in quantity. In the second case the skin became gangrenous, owing, it was thought, to the pressure of a pad, applied to check hemorrhage, on the firm mass of coiled wire in the sac. Altogether, not a very encouraging series of cases.

Dr. Joseph Coats, of Glasgow, related to the Pathological Society of London a remarkable case—the fourth or fifth on record—in which a hypertrophic goitre was accompanied by secondary growths having the same histological characters in other parts of the body. In this case there were several tumors of the skull, one of which was visible during life as a pulsatile swelling. The goitre had existed for sixteen years.

Mr. Lawson Tait has exhibited to the Pathological Society a series of preparations from fifty-eight patients operated upon by him during 1886 for disease of the uterine appendages. In all he had operated on sixty-three patients; but in four instances the specimens were not in his possession, and the fifth was lost. In the sixty-three cases there were only ten unmarried women; of these ten three had had gonorrhœa, two had been pregnant, and one had endured prolonged attempts to cure anteflexion with stem-pessaries. Mr. Tait described five causes for salpingitis: (1) simple catarrh, (2) exanthemata during puberty, (3) gonorrhœal infection, (4) post-puerperal pelvic inflammation, (5) arrested development of the uterus. With regard to the question of sterility he produced some interesting evidence. Of the fifty-three married women, twenty-three had never been pregnant, though married on an average ten years; sixteen had had one pregnancy followed immediately by pelvic trouble. Fourteen cases remained to be accounted for, all of them women who had had more than one child: eight gave a history of gonorrhœal disease not long before the operation, the average interval between this and their last pregnancy being three years. In the six remaining women the average period between the last pregnancy and the operation was fourteen years. These preparations appear to go far towards proving that in at least the vast majority of the cases the inflammatory affections of the "uterine appendages" which give rise to symptoms sufficiently severe to call for operation also produce structural changes which render the woman sterile.

Dr. John Reid, of Melbourne, Australia, has sent some samples of the alkaloid drumine, which he has obtained from an Australian creeping shrub, *Euphorbia Drummondii*. The plant has a very wide distribution in Australia, and as the mode of preparation recommended is remarkably simple, the alkaloid ought to be sold cheaply. The samples received by Professor Ogston, of Aberdeen, appear to have spoiled on the journey, so that the results were nil. Dr. Reid describes drumine as possessing anæsthetic properties as marked as those of cocaine: it does not cause dilatation of the pupil nor any constitutional symptoms when applied externally. Dr. Lewin has recently shown to the Medical Society in Berlin another local anæsthetic: it is described as a resinous extract prepared from *Piper methysticum*.

One of M. Charcot's patients has attracted a great deal of public attention in London by remaining in a condition of hypnotic lethargy for several weeks. He is a commercial traveller who appears to have come to England in the course of his business, and to have fallen among thieves on the day after his arrival. On the following morning he retired to bed and was believed to be asleep. On the fourth day of somnolence Dr. Keser, one of the physicians to the French hospital, was called in. He found him lying in bed, motionless, and apparently asleep; there was, however, some muscular rigidity, and general clonic spasm was easily produced by any sudden cutaneous stimulus. Dr. De Watteville ascertained that passive movements communicated to the arm (for the man had lost one in the Franco-Prussian war) or legs were continued indefinitely; that when the fist was closed the face assumed a pugnacious expression, and so on, according to the classical descriptions of Charcot. An epileptiform convulsion was produced by galvanization of the nose. At the end of a fortnight he began to show signs of spontaneous recovery, and on the sixteenth day he woke up. He was then suffering from aphonia and left hemianæsthesia and hemiplegia.

A great deal of dissatisfaction has been aroused in the medical service of the army by the issue of a warrant abolishing "relative rank." The officers of the service bear the titles surgeon, surgeon-major, brigade-surgeon, deputy surgeon-general, surgeon-general, and each grade ranked for precedence with certain grades in the combatant branch: surgeon-general with major-general, brigade-surgeon with lieutenant-colonel, and so on. This was called "relative rank." The new warrant abolished "relative rank," but, according to the solemn assurance of the Secretary of State for War, left the position of the medical officers unaltered, the term "relative rank" being, it was said, meaningless. This produced a state of things which "no fellow could understand:" so a new para-

graph has been promulgated restoring relative rank, if not in name, at least in reality, if it be a reality. The medical officers, however, refuse to be satisfied, "for," say they, "relative rank having been officially declared to be meaningless, it is not worth having."

The Medical Society of Wigan in Lancashire has taken up the subject of the fees paid to medical witnesses in the law courts. The scale of fees and allowances was fixed in 1858, and during the thirty years which have intervened a great many things have happened. The purchasing power of money has decreased, and facilities for communication have enormously increased. A practitioner is liable to be summoned to attend the court from day to day until the case he is engaged in is called on, and the only remuneration he can claim is one guinea a day, two shillings a night for lodgings, and second-class railway-fare. Setting aside the loss of practice, which is of course the most serious consideration, it really comes to this: that a medical practitioner summoned as an expert witness may easily find himself, when he has paid hotel and other incidental expenses, out of pocket. No reasonable increase in the scale of fees would completely compensate him for the loss of time and connection. The reform most urgently needed is an alteration in the mode of summoning medical witnesses, so that they should not be called upon to attend until they were wanted.

Some years ago the Grocers' Company, one of the richer livery companies of the city of London, established some scholarships in pathology, and from time to time one of the "Research Scholars" turns up in London to give some lectures on his researches. This year Mr. W. North, formerly Sharpey Physiological Scholar in University College, who has been studying malarial fevers in Italy, is giving a course of three lectures on their general history, the special local conditions found in the province of Rome, and on their etiology and pathology.

So many schemes for the improvement of "university education" in London have been floated within the last two or three years, and each one is so zealously defended by uncompromising advocates, that any spontaneous agreement appears to be out of the question. The Privy Council will probably receive some half-dozen applications for new charters, and under these circumstances it is expected that a Royal Commissioner will be appointed to report on the whole question, with perhaps special reference to the position of the medical schools in London.

DAWSON WILLIAMS, M.D.

DR. JOHN ASHHURST, JR., has been elected one of the Attending Surgeons of the Pennsylvania Hospital, to succeed Dr. R. J. Levis.

BALTIMORE.

THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND—THE YELLOW FEVER INVESTIGATION—POISONING BY OIL OF TANSY—"TWO COMEDIES"—ITEMS.

THE ancient Medical and Chirurgical Faculty of Maryland held its Eighty-Ninth Annual Convention last week, under the presidency of Dr. George W. Miltenberger. The sessions lasted four days, and a fair amount of good scientific work was done.

The financial condition of the faculty is not one of great prosperity. There is a deficiency in the treasury amounting to $276.27, partly owing to unusual expenses last year, and partly to the slowness of members in paying their dues. The total gain in membership during the last year was *one*,—a very unsatisfactory showing.

The library has been considerably increased during the year, there being now nearly ten thousand numbers upon the catalogue. With energy, tact, and hard work this number could, and should, be doubled. There are numerous scattered collections of medical books in this State which ought to find a home on the shelves of this library.

The State Medical Society of Pennsylvania sent a fraternal delegate in Dr. W. B. Ulrich, who was cordially received, and made a short speech full of good wishes from his associates.

Dr. Miltenberger, in his presidential address, reviewed the progress of medicine since he became a member of the faculty, nearly half a century ago. He discussed the relations of specialism and specialists to the general profession in a fair and dignified manner, and concluded with an eloquent quotation from a recent address of Sir James Paget.

The annual oration was delivered by Professor William H. Welch, of Johns Hopkins University, who chose as topic "Modes of Infection." He spoke of the advances made in demonstrating the bacterial nature of infectious diseases. From the positive knowledge we have of the modes of infection in some of these diseases, we are justified in concluding that all spread in a more or less similar manner. In cholera and typhoid fever the infectious agent is reproduced in the intestinal canal, and is given off from the body in the intestinal excretions. Dr. Welch believes that the cholera and typhoid fever poisons are capable of conveying the disease at the moment they are discharged in the intestinal excretions of the sick. No further development of the organism outside the body is necessary to render it infectious.

In the exanthematous diseases the infective agent is given off from the skin; in others possibly in the expired air. Hence, in preventing the spread of infectious diseases we must take account of the channels through which the disease-germs are thrown off.

Dr. Welch closed his excellent address as follows:

"What can be more instructive, or, indeed, more encouraging, than to witness the manner in which Asiatic cholera, during its present journey, has failed to secure any foothold in those European cities which are characterized by cleanliness and proper sanitary arrangements, although it has been repeatedly introduced into such cities? Those cities have secured their immunity not by spasmodic precautionary efforts after the entrance of the disease, but have done so by systematic and vigilant exertions during what may be termed the time of peace. Without wishing to pose as an alarmist, I believe that, with the announcement of the appearance of cholera at the borders of our country, the time has come to emphasize the fact that the only enlightened and civilized public policy is to put our house in order before danger is actually knocking at the door. We are only upon the threshold of a deeper insight into the nature of a class of diseases which have been more devastating to the human race than any upheavals of nature or any wars. They have left their imprint upon the political, the social, and the intellectual history of the world. One need not be of a too sanguine temperament to hope that our steadily-increasing knowledge will bear fruit, not only as has hitherto been the case in the prevention, but also in a system of causal therapeutics of these diseases. Then will be fulfilled that pious wish of enlightened practitioners of medicine in all ages of the world."

Dr. J. E. Michael, from the Section on Surgery, reported the details of nine cases of external perineal urethrotomy without a guide. The strictures requiring the perineal section were due, in one case, to perineal contusion, in five cases to sequelæ of gonorrhœa, in two cases to old fractures of the pelvic bones, and in one case to a recent fracture of the pelvis. All the patients recovered from the operation, although one died from tuberculosis six months after the operation, and one about a year after from cancer of the genital organs. Dr. Michael's experience has taught him that it is unnecessary to keep a catheter in the bladder after this operation.

From the Section on Practice of Medicine Dr. S. C. Chew reported upon Bergeon's treatment for consumption and upon strophanthus. In one case in which he had used the rectal injection of gas the patient was much improved. Strophanthus he regarded as a valuable addition to our list of heart-tonics.

The Section on Obstetrics reported through Dr. Wilmer Brinton, who presented a review of the recent progress in the art, and made a strong and timely plea for a more exact knowledge of obstetrical science and art by the general practitioner.

The Section on Therapeutics reported upon "Antipyretic Drugs and Cold-Water Antipyresis" through Dr. I. E. Atkinson.

Dr. A. B. Arnold read the report of the Section on Psychology and Medical Jurisprudence, selecting as his topic "Moral Insanity." He related a remarkable case which seemed difficult to account for except upon the theory that the moral obliquity of the individual was the result of disease. Such patients, he said, had a preponderance of inferior appetites, which they gratify. They are strangers to virtuous impulses. When taken to task for wrong-doing they give cunning reasons as excuses for their conduct. They evince a recklessness which would appall other people. They are against all laws. All they care for is the accomplishment of their own designs. When such people grow up they are averse to any regular occupation. Moral imbeciles exhibit a faulty judgment and a want of appreciation. The difficulty is to make a diagnosis between moral insanity and moral depravity. The history of each case must be the guide. If a man who has been a good, kind neighbor and moral man suddenly changes to a bad, cruel man, it may be assumed that this sudden change is morbid. A man who grew up good and then suddenly changed to bad must have done so as the result of disease. Men who are diseased morally may ruin themselves and families in consequence of it, and still retain their business and other traits. The difficulty of diagnosis in these cases is no greater than in the case of other obscure diseases. There are now quite a number of morbid phenomena which will be guides in deciding cases of moral insanity. As experts on the witness-stand physicians are liable to get into trouble, and it is their duty to give great study to such cases in order to give reasons for their conclusions. The difficulty in detecting such cases will be lessened in the future.

Dr. J. J. Chisolm, from the Section on Ophthalmology, described some simple methods for the ascertainment of ordinary eye-defects; and Dr. Randolph Winslow reported for the Section on Anatomy on Operations on the Round Ligaments of the Uterus.

Dr. Samuel J. Fort read a volunteer paper, in which he gave an interesting account of a remarkable case of abnormal memory. The individual is a congenital imbecile, and is now 43 years old. The memory is the only remarkable trait in this otherwise ordinary imbecile. He could compile a complete directory of those whom he had met during forty years of his life. He is very apt in remembering location and direction. Once passing over a road suffices to impress the surroundings indelibly upon his memory. What he reads is his apparently forever. Mention but the title of a book he has read, and he will repeat the entire contents. Mention an incident of a tale, and he will give the title and the rest of the tale. He has no

power to classify or generalize the things he remembers.

A paper on "Keratosis Senilis and its Relations to Epithelial Cancer" was read by Dr. George H. Rohé. He described keratosis senilis as small collections of epithelium variously distributed upon the face, trunk, neck, and extremities of elderly white persons. These collections usually occur in the form of roundish or irregular, slightly elevated, brownish or blackish patches. Sometimes they are dry and hard, but oftener the patch is greasy to the touch, soft, and easily scraped off with the finger-nail, leaving a moist or slightly-bleeding base. When rubbed or scratched off, the patches rapidly re-form, causing those affected much annoyance and often uneasiness by their persistence.

Physicians generally regard this as a trifling ailment, and pay no attention to it; but careful observation will show that not rarely the constant epithelial hyperplasia results in an atypical formation which eventuates in malignant ulceration. It therefore demands more attention from the profession than it has heretofore received. Prompt and appropriate treatment is not only desirable for its cosmetic effect, but may often save the patient much suffering and even prolong his existence.

When there is no induration present, the patches should be softened with some indifferent ointment, such as cold cream, vaseline, or cosmoline, then washed with soap and water to remove all the epithelial accumulation. Soft soap or *spiritus saponis kalinus* may be needed for this purpose. Afterwards an ointment containing sulphur and salicylic acid may be applied nightly, with success in most cases. The formula generally used by Dr. Rohé is—

℞ Acidi salicylici, gr. x–xxx;
Sulphuris præcip., ʒss–i;
Pulv. amyli triturat., ʒss;
Ungt. aquæ rosæ, ʒi.—M., ft. ungt.

If after six to eight weeks' persistent and regular use of this the epithelial accumulation returns, the patch should be lightly cauterized with caustic potash solution (1 : 2) or the thermo-cautery. If there is infiltration of the skin, the curette, thermo- or galvano-cautery, or electrolysis should be used, and the patch treated in all respects as a malignant growth.

The officers elected for the coming year are: Drs. I. E. Atkinson, President; C. H. Jones and James Carey Thomas, Vice-Presidents; W. F. A. Kemp, Treasurer; and G. L. Taneyhill, R. T. Wilson, Joseph T. Smith, and E. E. Mackenzie, Secretaries.

A communication from the chairman of the Finance Committee of the International Medical Congress was referred to a committee of twenty, who were empowered to collect subscriptions to aid in defraying the expenses of the Congress and forward the same to the proper officer of that organization.

An earnest appeal in favor of the Rush Monument fund was made by Dr. Rohé, the chairman of the local committee for this State.

Dr. George M. Sternberg, of the army, the eminent bacteriologist, who has been on duty as attending surgeon in this city for several years, has been appointed by President Cleveland as Commissioner to Brazil and Mexico to investigate the inoculations against yellow fever practised in those countries. This action was foreshadowed in the *Times* several weeks ago. Dr. Sternberg sailed for Brazil on the 4th instant.

At the last meeting of the Medical and Surgical Society Dr. Wilmer Brinton reported a fatal case of poisoning by oil of tansy taken with the object of producing abortion. The exact quantity taken could not be ascertained. The patient, soon after taking the drug, was seized with vomiting, followed by convulsions and collapse. She died within thirty minutes of swallowing the poison.

A case of poisoning by the same drug was related by Dr. Streett. This patient recovered. The symptoms were somewhat similar to those in the first case.

Dr. Frank Donaldson, Jr., who is well known to the profession for some excellent scientific work in physiology and laryngology, has lately made a venture in dramatic literature. He has written "Two Comedies: An Ill Wind, and An Abject Apology." The two works are published in an exquisitely-printed, vellum-bound volume from the press of Cupples, Upham & Co., of Boston. The dialogue is bright, the interest well sustained, and what there is of plot is wrought to a satisfactory climax in each instance. The little book will furnish a pleasant hour of relaxation from the burdens of professional work.

The new Marine Hospital, described in the *Times* some months ago, has been opened for the reception of patients.

The Woman's Medical College conferred the degree of M.D. on two candidates last Monday. G. H. R.

Baltimore, May 4, 1887.

PROCEEDINGS OF SOCIETIES.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Thursday, April 7, 1887.

The President, Thomas M. Drysdale, M.D., in the chair.

Dr. B. C. HIRST read a paper on

THE ETIOLOGY AND TREATMENT OF CASES OF SO-CALLED LATE INFECTION IN THE PUERPERAL STATE.

He said: The title of this paper is, I fear, too pretentious. Its object is merely the brief relation of four cases of so-called late infec-

tion in the puerperal state,—all, I believe, due to the same cause, all yielding to the same treatment, and conveying therefore a lesson of some little interest and value. The first case was a young primipara, delivered without difficulty after a moderately long labor. She left her bed on the eleventh day, having had no fever and having manifested no unusual symptom. Two days afterwards her cervix was exposed to view by means of a bivalve speculum, and a slight laceration was discovered, healing by granulation. The following morning, the fourteenth day after delivery, the patient was unwell; her temperature was 102°. Large doses of quinine were given, but the temperature rose to 103°, where it remained, with slight morning remissions, for two days. A more careful examination being made, it was discovered that the uterus was unusually large, that the os was patulous, that there was a foul-smelling discharge and considerable abdominal tenderness. The history of the case, with these symptoms, pointed to the retention of membranes, possibly a portion of placenta, and their subsequent decomposition, originated by the admission of air to the vagina and uterus by the use of the speculum. Acting upon this diagnosis, the uterine cavity was lightly scraped out with a dull curette, and a large quantity of decomposing decidua removed. This was followed by an intra-uterine injection of bichloride of mercury through a Bozeman's double catheter. The woman's temperature at the time was 103°. The following morning it had sunk to 99°, and within twenty-four hours was normal, and so remained.

The second case was also a primipara. The labor was terminated by the forceps. Upon the eleventh day the woman, although perfectly well until that time, had a morning temperature of 101°, rising in the evening to 102°. The uterus was found larger than it should have been. The os was patulous, and there was a fetid discharge. Profiting by the experience gained in the first case, the uterus was curetted and a considerable amount of decidua removed, and an intra-uterine douche given. In this case the womb almost at once contracted and the discharge ceased; but the patient had, unfortunately, an exacerbation of tubercular trouble in one lung, which kept the temperature high for some days.

In the third case, also a primipara, after an instrumental labor and an apparently normal lying-in, the temperature rose on the twelfth day to 99.8°, and on the day following to 100°. At the same time a fetid, muco-purulent discharge made its appearance. In this case a very large quantity of decidual membrane was removed, and the scraping was repeated on the following day, whereupon the temperature fell to normal and the discharge ceased.

The fourth case was a primipara, who on the sixth day, after an easy labor, had a temperature of 100°, although previously there had been no fever. The uterus here was very large, the os quite patulous, but in this case there was not much discharge. The same treatment was employed that had proved successful in the other cases, with the result of reducing the temperature within twenty-four hours to normal, where it remained.

Now, this experience is entirely too limited to enable one to come to a definite conclusion as to the cause of late infection in the puerperal state; but these cases suggested to my mind the possibility at least that the retention and subsequent decomposition of shreds of membrane or fragments of placenta will be found to be the most frequent cause of fever late in the puerperal state, and that, if not interfered with, this condition may lead to septicæmia and pyæmia. Other causes of fever late in the puerperal state are of course well known. Partially-healed wounds of the cervix, vagina, and perineum may be torn apart, and the fresh wounds thus produced may give entrance to the germs of septicæmia. Exposure to an atmosphere impregnated with emanations from sewers or water-closets from bad sanitation may give rise to febrile diseases at any time during the puerperium, as proved in the cases related by Dr. Playfair in a recent English journal. There is a possibility that the pyogenic micro-organisms which may carry on their work in the uterine cavity without very serious consequences to the patient may in the tubes manufacture their product, pus, in such quantities that it cannot be drained off, thus producing an abscess that may possibly open into the peritoneal cavity. There is a still more remote possibility that a pyosalpinx may be developed late in the puerperium by other pathogenic micro-organisms, by those of gonorrhœa, of tuberculosis, or even those of actino-mycosis. Finally, any of the febrile diseases that may attack a woman at any time may fasten themselves upon her during the lying-in period; but, as I have already said, it seems to me that the most common cause of late infection in the puerperal state is the decomposition of retained membrane or fragments of placenta, and that therefore the curette and the intra-uterine douche might be employed as a routine treatment in all cases where there occurs late in the puerperium fever associated with a large uterus, a patulous os, and a foul-smelling discharge. This treatment can do no harm, but may effect much good. My own experience in this direction is, however, limited, and upon this point I would like to have the opinion of the Society, whose experience, collectively and individually, must be greater than my own.

THE ANTISEPTIC PAD.

Dr. HIRST exhibited the antiseptic pad used by Richardson, of Boston, and Garrigues, of New York, to prevent the entrance of pathogenic germs to the vagina after labor.

Dr. PARVIN declared that he was not impressed with the necessity for the antiseptic pad, believing that as good results could be had from antiseptic napkins. The oiled silk or muslin used in making it, it seemed to him, might hinder the ready escape of the lochia. After labor, the vagina is practically a closed canal, open only for the egress of uterine discharge, and disease-germs cannot enter unless that canal be opened by some manipulation of the nurse or the physician, as in giving a vaginal injection or in making an examination. It seemed to him needless to close the vulva completely, and it also seemed possible that closure might hinder the escape of the lochia. But, be this as it may, if the vulva is carefully washed twice a day with an antiseptic solution, and if napkins that have been wrung out of a one-to-two-thousand corrosive-sublimate solution are applied over it, changing them more or less frequently, according to the amount of the flow, he thinks as good results can be had as by using the antiseptic pad. Moreover, it seemed to him doubtful whether antiseptic pads, though they have proved very useful in maternities, will be readily accepted in private practice, especially in the country.

In regard to the results in hospital practice from the use of antiseptics, he has no doubt of their value and should insist upon their employment. So, too, in private practice he has used them for some years; but it is only comparatively recently that he has learned how they should be used.

Dr. Parvin objects to the glass tubes for intra-uterine injections. Take, for example, Chamberlain's, and especially that of the late Albert H. Smith, and they will be found too large for use in some cases where injections are required. Then, too, the liability of glass to break is to him a conclusive argument against the introduction of an instrument made of this material into the uterus or into the vagina. The best instrument he believes is Bozeman's catheter. Formerly it was his custom to wait in cases of septic infection until the flow was offensive, and then at first to endeavor to correct the condition by vaginal, before resorting to uterine, injections. He now knows that is wrong, for the patient may perish or have a protracted illness and then make but partial recovery without the lochia at any time having an offensive odor. Within a year he has seen in hospital practice and in consultation eight cases of septic infection where the happiest results were promptly had from antiseptic solutions injected into the uterus. Most, if not all, of these patients probably would have recovered without these injections; but their recovery, judging from similar cases previously observed by him, would have been slow, possibly imperfect, and after a more or less prolonged period of suffering upon their part and of anxiety on the part of the practitioner. We have in antiseptic uterine injections the essential and the almost invariably successful treatment of puerperal septicæmia, if this treatment be begun soon enough and properly carried out.

Dr. BARTON inquired if the antiseptic pad was applied dry or moist.

Dr. T. M. DRYSDALE, while conceding the importance of antiseptic precautions in hospital, thought the advantage of these measures in private practice more difficult to prove. Until he relinquished obstetric practice in 1874 he had met with but five cases of puerperal fever in over two thousand deliveries, and in none of these women were any antiseptic precautions used other than cleanliness, as they were not then known.

Dr. LONGAKER believes with Dr. Hirst in the great utility of intra-uterine post-partum medication. Dr. Hirst has neglected to notice an agent in which he (Dr. Longaker) has the greatest confidence: iodoform, as used by Ehrendorfer, of Vienna, in the form of one-hundred-grain pencils. One of these is introduced into the cavity of the womb after irrigation; it dissolves very slowly, and continues to medicate the entire utero-vaginal canal for forty-eight or seventy-two hours.

In removing shreds of membrane after labor at term or after an incomplete abortion, he uses the finger, and prefers it to any form of curette he has used. Theoretically he would prefer a glass tube for intra-uterine irrigation, chiefly for the reason that it is more easily cleansed and kept clean. Hitherto he has always used the Bozeman cannula, the only objection to which is the difficulty of cleansing, and hence a possible danger of carrying sepsis directly from one case to another.

Dr. BAER emphatically endorses what has been said in favor of Bozeman's tube for intra-uterine irrigation and against the glass tube. The return-current is sure, and the small size of the instrument as compared with that of the glass tube renders its introduction easy and safe.

Regarding the pad exhibited by Dr. Hirst, if he believed the theory that the atmosphere is constantly impregnated with germs which poison whenever they come in contact with open vessels, he would certainly advocate the use of an impervious covering for the vaginal orifice. For the theory teaches that where there is no contact with the air there can be no sepsis. But he does not believe this fully. Therefore he thinks it safer to place the napkin under, and not over, the vulva, so as to permit as perfect drainage as possible, thereby giving free exit to the lochia by making of the vagina a drainage-tube,—its natural function after parturition.

Dr. HIRST remarked that the pads were used dry by Dr. Richardson and moist by Dr. Garrigues.

(To be continued.)

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, MARCH 28, 1887.

The President, LAURENCE JOHNSON, M.D., in the chair.

REMOVAL OF SOLID UTERINE AND OVARIAN TUMORS BY LAPAROTOMY, WITH CASES.

DR. MATTHEW D. MANN, of Buffalo, read the paper by invitation. He said the cases were not selected ones, but constituted his whole experience with such tumors. Three were cases of solid tumors of the ovaries; four were pedunculated fibroids of the uterus; two were fibroid enlargements of the uterus, requiring removal of the whole organ; the body of the uterus was removed also in another of the cases. More interest was attached to some than to others. Case III. was one of round, solid sarcoma of the left ovary, soft and friable. Had he recognized during the operation the ovarian rather than the uterine character of the tumor, he probably would have tied and dropped the pedicle. As it was, the clamp was applied, and after the clamp was taken off, and there seemed to be no strain upon the attachments, the bowels were moved, and this was followed by rise of temperature and pulse. Trouble with the pedicle was suspected, and it was found that the remains of the sloughing pedicle were attached to the broad ligament, while the fundus uteri was still attached to the lower edge of the incision. It was necessary to tear this loose. Hemorrhage occurring from the fundus, supravaginal hysterectomy had to be performed. The patient died of septicæmia the third day after this operation. Of the ovarian cases the first was an adeno-cystoma, the second a fibroma, and the third a sarcoma.

Dr. Mann saw the fourth patient first in 1882, and again in 1884. The diagnosis of either a solid ovarian tumor or a uterine fibroid was made. At the operation the tumor had the appearance of neither a fibroid nor a cyst. The pedicle was very short, thick, and vascular. A clamp was employed, and the pedicle was treated by the external method. A rent of the rectum took place during the operation from adhesions, and fluid entered the peritoneal cavity. This was due to retention of an enema which the nurse had given just before the operation. The tumor was a fibro-myoma. The patient made a good recovery.

Case V. was that of a woman, aged 33, the mother of six children. She had first noticed enlargement of the abdomen three years before the operation. Only latterly menstruation became too frequent, and she emaciated. The whole abdominal cavity up to the ribs was found filled with a tumor. There was a sensation as of ballottement. The tumor was found to be nearly solid, attached to the fundus of the uterus. It had a small pedicle. The tumor was divided before removing it. He thought of treating the pedicle by the external method, but unfortunately he changed his mind, tied it, cauterized its surface, and dropped it. The tumor was a soft myoma. In the evening the patient was about to go into collapse, and on reopening the abdomen the silk ligature was found to have slipped off entirely, and the patient was dying from hemorrhage. A clamp was now applied, and the patient was finally discharged cured. The principal point of interest in this case was reopening the abdomen for hemorrhage. He was sure that cases had been left to die where reopening of the abdomen and securing a bleeding point would have saved them. In this case the kidneys during the state approaching collapse failed to act properly, and the beneficial effect of an injection of hot water into the rectum, where it was retained, was manifest.

Case VI. was one of large uterine fibroid, involving the whole body of the uterus, producing great suffering. Supravaginal hysterectomy was performed; the clamp was applied. The patient made a good recovery from the operation and from the symptoms which had rendered life a burden.

Case VII. was one of myomatous enlargement of the body of the uterus, weighing about five pounds. The patient made a good recovery.

Case VIII. was one of fibro-cyst of the body of the uterus, from which nearly two quarts of pus were evacuated. The peritoneal cavity was thoroughly cleansed before closing the wound. The clamp was removed from the stump on the tenth day. The patient made a good recovery. A curious fact in the case was that the woman had become pregnant, and was delivered somewhat prematurely only a short time before the operation. Considering the condition of the uterus, it seemed strange that she should have become pregnant at all.

Dr. Mann said, in his concluding remarks, that the general profession labored under the belief that solid tumors of the uterus and ovary were beyond surgical reach, unless in the former they presented at the os. It seemed to him, however, that the removal of these tumors was no more dangerous than the removal of cysts, and the results of other operators did not differ much from his. The diagnosis was more difficult. But exploratory incision in many cases was less dangerous than leaving the case alone. As to the diagnosis of adhesions, length of pedicle, and attachments to other organs, he did not believe that any physician could do more than guess until after the abdomen was opened. He quoted approvingly the indications for the operation summarized by Keith, and said that all of his cases might have fallen under one of those classes except one, and for that one he thought another class might justly be made,—namely, that fibroid tumors, no matter what their size, which, by their presence

causing pain and suffering, were wearing out the patient, should be removed.

He would add another class of cases calling for supravaginal hysterectomy,—namely, sloughing intra-uterine fibroids which had already given rise to septicæmia, and the enucleation of which would only add to the danger by affording a new avenue of absorption. In only one of his cases could removal of the uterine appendages instead of removal of the uterus have been seriously considered, and in this case it was a question whether the operation would have had any effect upon the tumor. He could not but consider that some share of the success of his operations was due to the use of Wilson's clamp. It was needless to say that the strictest antisepsis was observed, and he placed the nail-brush and soap among the first on the list of antiseptics.

He suggested that the discussion be limited to the advisability of reopening the abdomen for hemorrhage and pelvic infection, removal of the uterus for myofibromata, and the treatment of the pedicle in supravaginal hysterectomy and myotomy.

DISCUSSION.

Dr. C. C. Lee was asked to open the discussion, and said he agreed in the main points made by the author of the paper. He did not quite agree with him as to the indications for the removal—either by hysterectomy or by other methods of laparotomy—of uterine fibromata in as wide a latitude as he had described. He believed that in all cases of solid growths of the uterus, where there was a chance of arresting nutrition of those growths by removal of the uterine appendages in young women, that method should be thoroughly considered before removing the tumor or uterus itself, and for this reason, that there might be a superitoneal fibroid in addition to the one removed, or others might develop subsequently. Dr. Lee had never had occasion to regret reopening the abdomen for hemorrhage.

Dr. James B. Hunter said with regard to the treatment of the pedicle of solid tumors that he was strongly in favor of the plan advocated by Dr. Mann,—viz., the external. He preferred the elastic ligature. Dr. Mann had been fortunate in seeing so many solid tumors. Dr. Hunter had diagnosticated and removed a solid tumor of the ovary within a year, the patient making a good recovery. He thought Dr. Mann should not remove the clamp so soon, at least in some of the cases.

Dr. W. Gill Wylie thought there could be no question of the propriety of reopening the abdominal cavity in suspected hemorrhage, and he suggested that when hemorrhage was feared a drainage-tube be introduced and carefully watched. He had resorted to this precaution in one case, but the assistant did not examine it often enough, and before the hemorrhage was discovered the patient was nearly in collapse. But the vein was tied and the patient recovered. He thought, with Dr. Mann, that it was risky to tie the pedicle of a muscular tumor. As to the indications for removal of the solid tumor, definite rules could not be made. For instance, in one case he found salpingitis complicating the fibroid of the uterus, and it would be difficult to say which condition was the chief cause of the woman's sufferings, and which should be removed. He would not hesitate to operate for a solid tumor any longer than to operate for a cyst, if the symptoms demanded it. He preferred the serre-nœud to the elastic ligature and other measures. Instead of loosening it the eighth or ninth day, he tightened it until it had gradually cut off the pedicle.

Dr. P. F. Mundé had operated in only two cases of solid tumor of the uterus,—one being a fibroid, weighing seventeen pounds, the other a myoma. In the first case the operation was performed because the patient had become addicted to opium for the relief of pain. The pedicle dropped off on the sixteenth day. In the second case separation of the adhesions led to rupture of the mesentery and intestine. Secondary hemorrhage took place twenty-four or thirty-six hours after the operation. The abdomen was reopened and the hemorrhage arrested, but the patient died of exhaustion in spite of transfusion of a saline solution.

As to diagnosis in case of myoma, it was not easy, but it could be distinguished from ovarian cyst by the thick abdominal walls; in cyst of the ovary of rapid development the walls were thin. We need not be in haste to operate for myomata of the uterus. Dr. Sims recommended an operation in one case some years ago, but the patient refused, and was to-day in the lecture-field. He had met with several cases of solid ovarian tumors, but had not operated.

Dr. Liel remarked that Dr. Sims had operated upon two cases of solid ovarian tumors within the past year. In one the tumor weighed about ten pounds, in the other about two pounds. The patients recovered.

Dr. Mann said that in removing the clamp on the eighth or ninth day he substituted for it an elastic ligature to cut it off. He doubted whether Dr. Mundé's suggestion as to differential diagnosis would hold.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting of the Academy was held April 7, 1887, the President, A. Jacobi, M.D., in the chair.

The Council recommended that a certain member be notified of the disapproval of the Academy of his action in endorsing a proprietary article. The report was adopted.

A memoir of the late Dr. H. W. Dudley,

by Dr. A. J. C. Skene, was read, in the absence of the author, by Dr. Thallon.

ON THE PROPER SELECTION OF ETHER OR CHLOROFORM AS AN ANÆSTHETIC.

While waiting for Dr. Gerster, the author of the paper, who was unavoidably detained, a letter was read from Dr. Herman Knapp, giving his experience with chloroform and ether:

"From 1860 to 1874 I used chloroform in over three thousand cases. There was no fatal result, but many unpleasant, and a certain number of critical, cases. About once a month I had to resort to artificial respiration and other means of resuscitation. Having seen fatal cases in Berlin and Vienna, I was in constant dread. From 1874 to this date I have used ether in all cases of anæsthesia, in children as well as in adults. No general complaint has been considered a contra-indication. I have administered ether according to the so-called choking plan, yet admitting so much air at the beginning as to let the patient get over the impression of asphyxia. A great many of the operations which I performed could be finished during the period of primary anæsthesia. Others lasted over hours, during which time the narcosis was kept up uninterruptedly. In several hundred cases of consecutive ether-narcosis I have taken notes of the time required to bring about anæsthesia: the average length of time was one minute and thirty-seven seconds. There were no fatal cases, and only a very few in which I had to interrupt temporarily the narcosis; there were none in which it had to be relinquished, as far as I can recollect. The secondary effect was no more unpleasant than from chloroform. I use ether as a universal anæsthetic, considering it safer than chloroform, just as manageable, if not more so."

Dr. A. G. GERSTER, having arrived, proceeded to read his paper. He said both chloroform and ether are dangerous anæsthetics. Chloroform produces very marked depression of the vaso-motor functions. This depression occurs only occasionally in ether-anæsthesia. The practical significance of this fact is that chloroform is the more powerful agent, and its administration requires much greater caution. But this is not sufficient ground for its unqualified condemnation. Consciousness being restored, there is no secondary danger from chloroform. Ether, on the other hand, has not caused as often immediate death on the operating-table, but the dangers from ether do not cease the moment the patient comes from under its influence. Numerous cases of nephritis and pneumonia have followed its use. He would show where chloroform was the more dangerous anæsthetic and should not be used; on the other hand, also where ether was the more dangerous and should not be used. There was too much one-sidedness in favor of ether among physicians of the Eastern cities.

In giving ether, he used Ormsby's inhaler as the best; less ether was required, and consequently it took a shorter time for the patient to regain consciousness. Ether is contra-indicated in renal disease. Its dangers here had been pointed out by Dr. Emmet. That chloroform is much safer in Bright's disease than ether had been abundantly shown. It had been employed for hours in such cases without any tendency to uræmic eclampsia. Fatal cases were cited in which ether had caused death subsequent to its administration by superadding an acute attack to pre-existing nephritis.

Ether was also contra-indicated in bronchitis, and it not unfrequently led to pneumonia in such patients. Three cases were related in which pneumonia followed the use of ether, death resulting. Three other cases had occurred in another hospital during 1886, reported to him by the house-physician. Five cases of serious bronchitis developed after the use of ether in the German Hospital during 1886. After attention had been called to the subject, doubtless other cases would be reported.

In certain classes of cases ether acted badly, as in herniotomy, operations involving the peritoneum, removal of deep-seated tumors in the vicinity of large vessels. Out of one hundred and twenty-five cases in which ether was administered at the German Hospital during 1886, in eleven it acted badly. In such cases chloroform, being substituted, produced complete anæsthesia. Persons addicted to alcohol, perhaps only moderately, were likely to take ether badly.

There was but one contra-indication to the use of chloroform,—namely, a weak heart from any cause whatever. This might occur from fear of the operation or nervous depression. Valvular disease did not necessarily signify a weak heart and contra-indicate the employment of chloroform. Ether was also more dangerous in these cases, but less so than chloroform.

Dr. R. F. WEIR opened the discussion. He said there has been a growing feeling among us that ether is not so safe an anæsthetic as we have for some years believed. Dr. Gerster had cited some of the reasons for this feeling, notably the danger in kidney-disease; "but I think he has stated too positively that where we find albumen, casts, etc., in the urine, ether should not be given. I have frequently given ether in such cases, and latterly, since recognizing the risk, I have administered the anæsthetic much more cautiously, but so far I have not had any reason to complain of the action of the anæsthetic. Dr. Gerster is right in stating that ether is used recklessly to a great extent.

"In certain affections of the larynx ether is contra-indicated; but I would not say that

ether should not be used in kidney-disease: I would say that it should be used cautiously.

"As regards the occurrence of pneumonia, of course ether does bring cold vapor to the lungs. But I noticed that after the introduction of the spray we had pneumonia oftener than formerly. Now we have another cause of pneumonia in our wet carbolized gauze laid so freely upon the patient. The pneumonias which I have seen could be traced to incautious exposure of the patient."

Dr. Weir stated some statistics relative to the number of deaths from ether and chloroform throughout the world, and, referring to the experience at the New York Hospital, he could cite only four deaths occurring during the operation from ether. One other case had occurred at the House of Relief. Although in some cases ether was taken badly, yet at the Hospital they had been able always to continue the operation.

Dr. L. A. SAYRE said he was so thoroughly convinced of the correctness of his own views regarding the relative value of ether and chloroform that he had continued the use of chloroform notwithstanding the general opposition manifested towards it. He prefers chloroform to ether because it does not produce spasmodic muscular contraction; it is more agreeable to the patient; it is more speedy in its effect; it is not followed by bad after-effects, such as vomiting, Bright's disease, pneumonia, etc. The use of chloroform or ether without measure, freely mixing them with the air, which was their antidote, was wrong. Chloroform and ether are both powerful agents; each has caused many deaths. Therefore they should be used with the same care and skill in measuring the dose and guarding against accidents as in the employment of any other potent drug.

Dr. Sayre showed the inhaler which he had used for years, by which the amount of chloroform could be measured perfectly, and the air to any degree excluded. Administered in this way, twenty or thirty drops of chloroform would almost invariably produce anæsthesia by a few inhalations; and if from any cause the heart should cease to act, it could be restored by a few efforts at artificial respiration. If, however, the chloroform were given mixed freely with air, as was so commonly done, a larger quantity would be required, and restoration of the heart's action would be impossible.

Dr. W. GILL WYLIE said that during the last two months he had lost two patients from the influence of ether, whereas prior to that he could not recall a single instance. He thought Dr. Gerster spoke truly when he said that ether was administered recklessly in New York. One of his patients died of Bright's disease following the use of the ether, while the second died within an hour after finishing a herniotomy, probably from suffocation. She weighed as much as two hundred and fifty pounds. Very fat patients were more likely to die of suffocation during the use of the anæsthetic. He recalled a third case of death from ether during the operation, occurring within a block of where his own patient died. He would, as a rule, give ether in preference to chloroform, especially in general surgical operations; but in the lying-in room and in children he would give chloroform. But there were also cases where the kidneys or lungs were diseased in which chloroform should be employed.

Dr. W. A. WYETH would use chloroform when patients were under six years of age. Experience seemed to show that it was perfectly safe and to be preferred to ether in childbirth. A third indication for chloroform was the fact that the patient had previously taken ether badly. It might also be used when ether could not be obtained. He would use ether although there was nephritis, but cautiously, and if dangerous symptoms arose he would substitute chloroform. He had never seen, as far as he could remember, any accident from ether; certainly no death. He had not met with the class of cases referred to by Dr. Gerster, in which the patient could not be anæsthetized by ether.

Dr. ABBE had seen only one death from ether: it occurred in the practice of the late Dr. Little, the operation being for tetanus. So far as pneumonia and nephritis following ether-administration were concerned, both were under our control. He thought pneumonia was more likely to be due to draughts and other exposure after or during the operation. Four cases of acute nephritis after the use of ether had come under his observation during the past year.

Dr. P. F. MUNDÉ had formerly used chloroform a great deal, and, while he had seen no deaths from it, he had seen patients restored with difficulty, and he was in great fear of it. He had during later years employed ether almost exclusively. But both were powerful drugs, and he felt more anxiety with regard to the anæsthetic than with regard to the operation. Ether, however, was the safer. He preferred Clover's inhaler. In some cases he had failed to get the patient satisfactorily under the ether, and had substituted chloroform, rendering the patient completely anæsthetic. In short operations he preferred chloroform. In obstetrics he preferred chloroform. In long operations he preferred ether, given by Clover's inhaler.

Dr. R. W. AMIDON, referring to the collection of mucus in the bronchi during ether-administration, recommended as a preventive the use of atropine or a preparation of belladonna prior to the administration of the ether.

Dr. THALLON thought kidney-disease should not contra-indicate the use of ether, but it should make us cautious. The best inhaler was that employed by dentists in giving nitrous oxide.

Dr. GERSTER closed the discussion. Speaking of the cause of pneumonia, he was of the opinion that the secretions of the mucous membranes were changed by the ether in inhalation, and these, entering the air-passages, set up inflammation. Statistics, as they had been collected, were worth nothing in deciding whether ether or chloroform was the safer anæsthetic. He knew of five deaths from ether in one hospital which had never been reported. Again, how often had ether caused death from nephritis or pneumonia hours or days after the operation, the cause of the pneumonia or kidney-disease never being recorded!

REVIEWS AND BOOK NOTICES.

THE PRACTITIONER'S HAND-BOOK OF TREATMENT; OR, THE PRINCIPLES OF THERAPEUTICS. By J. MILNER FOTHERGILL, M.D. Third American from the Third English Edition. Lea Brothers & Co., Philadelphia, 1887. Pp. 660.

The lessons in rational medicine which Dr. Fothergill essayed to teach in this work have not fallen upon unappreciative ears, and the favor accorded to former editions has led to increase in size by the addition of important chapters on "The Dietary in Acute Disease and Malassimilation," and on "The Management of Convalescence."

This work on the principles of therapeutics has been previously favorably noticed in these pages, and we can only repeat our former expression of commendation, and again urge it upon the attention of our readers.

HYSTÉRIE ET TRAUMATISME: PARALYSIES, CONTRACTURES, ARTHROLOGIES, HYSTÉRO-TRAUMATIQUES. Par le Dr. PAUL BERBEZ. Paris, 1887.

This is an interesting monograph of some one hundred and twenty-five pages, discussing the history, etiology, symptoms, diagnosis, pathogeny, prognosis, and treatment, as well as full clinical reports of twenty-six cases, of hysteria following injury of a more or less simple character. The author's style is clear, concise, and readable. His assertions are based upon the study of a hundred cases, selected, with the assistance of Professor Charcot, from the wards of La Salpêtrière. In his own words, he proposes to consider "hysteria from the surgical stand-point." He maintains that the various paralyses, contractures, anæsthesias, pains in the joints, etc., which frequently follow injuries of a slight character, such as luxations, contusions, and bruises, are chiefly hysterical, and must be treated accordingly.

The chapter upon the pathogeny of the disease, though of a nature highly theoretical, bespeaks an originality and force of reasoning which will always awaken interest and command respect. We could have wished that the chapter upon the diagnosis had been made somewhat more exhaustive, since that is the feature of the disease about which we need at present the most information. In his treatment the author presents nothing new, but he insists forcibly upon the moral and physical care of the case.

Although the reader may differ from some of the conclusions, he must nevertheless admit their practical bearing for surgeons, while their theoretical considerations for psychologists possess interest and value, and mark this as a valuable contribution to the study of this confessedly obscure subject. L. H. M.

THE PHYSICIAN'S DOSE AND SYMPTOM BOOK: Containing the Doses and Uses of all the Principal Articles of the Materia Medica and Officinal Preparations in Alphabetical Order. By JOSEPH H. WYTHE, M.D. Seventeenth Edition. Completely rewritten and enlarged. P. Blakiston, Son & Co., Philadelphia, 1887. 12mo, pp. 226.

This convenient little volume is very useful for reference as to doses of the various preparations of drugs and their uses. It also contains valuable lists of incompatibles, of antidotes to poisons, and of symptoms and treatment of the principal diseases.

MISCELLANY.

JUDGE C. C. FULLER, of Michigan, decided, when a physician refused to testify on the ground that the evidence would be expert testimony, "After many years' study and observation, I decide that a physician's knowledge is his stock in trade, his capital, and we have no more right to take it without extra compensation than we have to take provisions from a grocery, without pay, to feed the jury. The court rules that the witness is not *compelled* to testify."

THE next meeting of the Medical Editors' Association will be held in Chicago on Monday evening preceding the meeting of the American Medical Association. The President, Dr. Shoemaker, will deliver an address: "Some of the Present Abuses of Medical Literature." It is desirable that all medical editors who can shall attend, as the organization is a permanent one and largely social. Dr. T. L. Gray, of Chicago, is Chairman of the Committee of Arrangements.

Members of the press who expect to be present should send their names as early as possible to the Secretary, Dr. William Porter, 3137 Lucas Avenue, St. Louis. Exchanges please copy.

NOTES AND QUERIES.

OBITUARY.

ELLIOTT RICHARDSON, M D., Lecturer on Operative Obstetrics in the University of Pennsylvania, Obstetrician to the Philadelphia Hospital, and Gynæcologist to the Pennsylvania Hospital, died on the 9th instant of typhoid fever.

Dr. Richardson came of an old Quaker family, and was educated at the Friends' School in this city, afterwards graduating from the Medical Department of the University of Pennsylvania in 1867. As a student he was faithful and conscientious, and as resident physician in Wills, the Philadelphia, and the Pennsylvania Hospitals gained the regard and respect of his contemporaries and of the older men under whom he served, many of whom were his friends in after-life.

Commencing practice in 1870, he soon began to devote himself especially to the study of obstetrics and gynæcology, and spent years of laborious practice among the poor and in dispensaries until he obtained a thorough knowledge of these subjects. He located at first in Spruce Street, near Seventh, but within the last ten years moved westward to the more fashionable part of the city, where he was rapidly building up a large practice among the best class of his fellow-townsmen, when death overtook him and cut short his career just as he was beginning to reap the fruits of nearly twenty years' study and unrequited labor.

Dr. Richardson was naturally of a retiring disposition, and was intimately known to but few, although his occupation brought him outwardly before many. He was above all things a practitioner. He showed at his best beside the bedside of the sick and in the lying-in chamber. His readiness for every call of charity or suffering, his tender sympathy for pain and distress, no less than his mastery of every diagnostic and therapeutic means, marked the ideal minister to the sick, while his punctilious sense of honor and of professional courtesy was such as commanded the respect even of those whose own course was actuated by a less lofty ideal.

As a teacher of obstetrics and gynæcology Dr. Richardson was lucid and satisfactory in explanation and skilful in demonstration, while as a general lecturer on didactic subjects he was less impressive. His chief success, in his own estimation, was in the case of the well-known Porro-Müller operation which he performed a few years ago, and which was and we believe remains the only successful operation of the kind as yet performed in this country.

Personally, Dr. Richardson was to his intimate friends a charming companion. An unbroken friendship of twenty-one years enables the writer to speak on this point with knowledge. His acquaintance with the best classical English literature was extensive, and was used to enliven his conversation in a way that only his chosen friends had the opportunity to enjoy.

A man of high moral character and deep religious feeling, he rarely expressed himself freely, but in every action of his life the moving springs of his conduct could be seen. Few men of his age could less easily be spared from the ranks of the medical profession in this city, for few so well upheld the ethical and professional standard which in this mercenary age is with so much difficulty maintained. A. V. H.

A PRIZE ESSAY ON HAY-FEVER.

At its last meeting, September, 1886, at Bethlehem, New Hampshire, the United States Hay-Fever Association decided to offer a prize for the best essay from a competent source, preferably a physician, on some question relating to *Catarrhus æstivus*, or hay-fever.

In order to carry out the above, the following is announced officially:

1. Subject of the Essay, Hay-Fever. (*a*) Its Pathology. (*b*) The predisposing and the aggravating causes. (*c*) Advice to the sufferer.

2. The essay not to exceed *four thousand words*, and to be as practical and non-technical as possible.

3. The manuscripts to be received at the office of Samuel Lockwood, Freehold, New Jersey, not later than April 30, 1887.

4. Each manuscript to have a motto under the title, and to be accompanied with a sealed letter containing said motto, also the name and address of the author. These letters not to be opened until after the award is decided.

5. The prize to be $25. The accepted essay to be published immediately in the Association's annual report, one hundred copies to be given the author.

6. The Committee of Award: Samuel Lockwood, Chairman of Committee on Scientific Facts; Frank B. Fay, President U. S. H. F. A.; Charles C. Dawson, Secretary U. S. H. F. A.

SAMUEL LOCKWOOD,
Chairman of Committee on Scientific Facts.
FREEHOLD, N.J., January 15, 1887.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 24, 1887, *TO MAY* 7, 1887.

MAJOR BLENCOWE E. FRYER, SURGEON.—Ordered for examination by Army Retiring Board at San Francisco, California. S. O. 101, A. G. O., May 2, 1887.

MAJOR GEORGE M. STERNBERG, SURGEON.—Assigned by the President to the special duty, under the Treasury Department, of "investigating the merits of the method practised in Mexico and Brazil for preventing yellow fever by inoculation." Relieved from duty as attending surgeon and examiner of recruits in Baltimore, Maryland. S. O. 101, A. G. O., May 2, 1887.

MAJOR JOHN S. BILLINGS, SURGEON.—Granted leave of absence for ten days, to take effect May 3, 1887. S. O. 98, A. G. O., April 28, 1887.

MAJOR J. V. MIDDLETON, SURGEON; MAJOR J. C. G. HAPPENSETT, SURGEON; CAPTAIN F. C. AINSWORTH, ASSISTANT-SURGEON.—Appointed to assemble at the United States Military Academy, West Point, New York, on June 1, to examine into the physical qualifications of the members of the graduating class and of the candidates for admission to the Academy. S. O. 102, A. G. O., May 3, 1887.

CAPTAIN LEONARD Y. LORING, ASSISTANT-SURGEON.—Sick-leave of absence still further extended six months on surgeon's certificate of disability. S. O. 103, A. G. O., May 4, 1887.

CAPTAIN VICTOR BIART, ASSISTANT-SURGEON.—Sick-leave still further extended one year on surgeon's certificate of disability. S. O. 99, A. G. O., April 29, 1887.

FIRST-LIEUTENANT CHARLES B. EWING, ASSISTANT-SURGEON.—Ordered from Fort Leavenworth, Kansas, to Fort Lewis, Colorado, for temporary duty. S. O. 100, A. G. O., April 30, 1887.

FIRST-LIEUTENANT CHARLES E. WOODRUFF, ASSISTANT-SURGEON (recently appointed).—Ordered for duty at Fort Wayne, Michigan. S. O. 96, A. G. O., April 26, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDING MAY 7, 1887.

ASSISTANT-SURGEON L. W. ATLEE.—Ordered to the Receiving-Ship "Vermont."

PASSED ASSISTANT-SURGEON CLEMENT BIDDLE.—Detached from the Naval Academy and to Marine Rendezvous, Philadelphia, Pennsylvania.

PASSED ASSISTANT-SURGEON RICHARD ASHBRIDGE.—Ordered to the Naval Academy.

MEDICAL INSPECTOR A. HUDSON.—Ordered to the U.S.S. "Trenton."

PASSED ASSISTANT-SURGEON C. T. HIBBETT.—Ordered to the U.S.S. "Trenton."

ASSISTANT-SURGEON CORBIN J. DECKER.—Detached from the Receiving-Ship "St. Louis" and to the U.S.S. "Trenton."

ASSISTANT-SURGEON JOSEPH SHAFER.—Detached from the "Minnesota" and to the "Ossipee."

SURGEON W. J. SIMON.—Ordered to the U.S. Steamer "Boston."

ASSISTANT-SURGEON C. P. HENRY.—Detached from hospital, Philadelphia, and to the "Boston."

ASSISTANT-SURGEON VICTOR C. B. MEANS.—Detached from hospital, Mare Island, and to the hospital, New York.

PASSED ASSISTANT-SURGEON MANLY H. SIMONS.—Detached from Naval Academy and to the "Constellation."

PASSED ASSISTANT-SURGEON OLIVER DIEHL.—Detached from hospital, New York, and to the hospital at Philadelphia.

PHILADELPHIA, MAY 28, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON CASES ILLUSTRATING THE USE OF ADONIDINE IN DILATED HEART, AND THE TREATMENT OF CEREBRAL APOPLEXY.

BY J. M. DA COSTA, M.D., LL.D.,

Professor of Practice of Medicine and of Clinical Medicine in the Jefferson Medical College; One of the Attending Physicians to the Pennsylvania Hospital, etc.

GENTLEMEN,—I shall bring before you cases, this morning, which will serve to illustrate some therapeutical points which you may find to have practical value. The first one is the case of A. B., a man, 23 years of age, in whose family history we can trace rheumatism, and whose occupation constantly exposes him to changes of weather: he is a teamster. Previous to his present malady he states that he enjoyed excellent health. He has never had rheumatism, and denies specific infection. There is no evidence of excesses in drink, he smokes moderately, and, in truth, his habits in every respect appear to be good. Up to the time of the onset of his present illness he does not recall the fact that he had been at all troubled with shortness of breath. About three months prior to his admission into the hospital, which was on the 29th of November, he noticed that he had diarrhœa and paroxysmal pains in the lower part of the stomach, and also pain in his chest, accompanied by difficulty in breathing. Indeed, this dyspnœa at once assumed serious proportions, and it has continued ever since,—according to the notes, at times more, at times less, severe; but there seems to be no time, either in the day or night, in which he did not suffer with shortness of breathing. About three weeks prior to entering the wards he also noticed palpitation of the heart, coming on irregularly, which increased his discomfort. He had no attacks of vomiting, and his digestion was good. He continued at his occupation until the middle of November, when he was obliged to give up heavy work, and confined himself to light labor about the stable. On the 20th of November his feet began to swell, and the swelling steadily increased; it was not accompanied by œdema in other portions of his body. Prior to admission there was another outbreak of diarrhœa, but it was unaccompanied by marked gastric symptoms.

His condition on the day of admission (November 29) was entered upon the notes as follows. "Face puffy, feet and legs greatly œdematous; his lips and nails cyanotic; his pulse weak and irregular. The urine was scanty, of specific gravity 1024, and contained a small proportion of albumen, but no tube-casts were detected." The axillary temperature was sub-normal: the record states that it was 98° on admission; for the next eleven days, as you see by the chart, it remains about 96°, occasionally rising to 97°. On December 11 it becomes normal, and remains subsequently at 98.4°.

Now, gentlemen, irrespective of what I have told you, we have here a note of a heart-examination made the day subsequent to admission which shows what is the source of this man's illness. "Heart's action is extremely irregular; percussion-dulness extends almost to the right edge of the sternum from a point outside the mammary line; the apex-impulse can be felt in two intercostal spaces, and in this region there is present a distinct presystolic murmur. The second sound of the heart is heard at the base, and is especially distinct at the left base."

The diagnosis was made of mitral organic lesion, with narrowing of the orifice, stenosis. At the same time the increased percussion-dulness and the extended impulse, the apex-beat being feeble as compared with the extent of the dulness, give us a further diagnosis of cardiac dilatation with slight hypertrophy. The pulse was feeble, irregular, and difficult to count, but was about eighty in the minute. This is the record of the heart-lesion. The lungs presented nothing of importance.

We placed the man upon digitalis, with, to a certain extent, good results. Under the infusion of digitalis this happened: the dropsy disappeared, and the breathing was somewhat relieved; the heart's action became more regular and increased in force, but not to the extent that we hoped. Indeed, the action of the digitalis seemed here to be chiefly diuretic, and expended on the dropsy: it was very slight upon the heart.

After waiting several days I concluded that a pure heart-tonic would be serviceable, and then gave him the new remedy, adonidine: one-tenth of a grain was given three times a day at first; subsequently it was given five or six times in the twenty-four hours. The effect of this upon the heart was strikingly good.

In the first place, from the dates I see clearly that the temperature rose coincidently with the administration of the adonidine; the low temperature, which had continued all the time he was taking digitalis, ceased when he began to take the new remedy. Secondly, this was attended with an increase in the strength and action of the heart, proving its influence as a cardiac tonic. In one respect adonidine was different in its action from digitalis: it had no diuretic action. The urine came down to a pint in twenty-four hours; and this made me, on the 24th, return to the digitalis (a dessertspoonful of the infusion four times a day); the urine at once increased, but the improvement in the heart remained stationary.

Having told you his clinical history, I will now examine him before you. With regard to his shortness of breath, this is vastly better. This was noticed at first under digitalis, but the greatest improvement occurred when he was taking adonidine. His face is somewhat suffused and the capillaries are enlarged, but not nearly to the extent that they were at first. The dulness on percussion in the cardiac region is large, the apex beats to the left of the nipple, and the impulse has more force than it had, but it is still more diffuse than it should be. There can be no doubt that the heart's impulse is stronger than it was. Auscultation reveals, just over the apex, a most marked presystolic murmur, passing over into the systole. In other words, there is narrowing or stenosis passing into insufficiency. With regard to the second sound, I find it accentuated, but the difference between the right and left base is not very marked, not enough, at least, to make it a point in the diagnosis. The murmur is also heard, though faintly, at the angle of the left scapula. There are no marked pulmonary signs.

This case is diagnostically clear enough. I did not purpose discussing the points of diagnosis with you; it is the therapeutic aspect of the case which is so striking, as it enables us to draw some comparison between digitalis and the new alkaloid, adonidine. I selected this agent because, while its powers as a heart-tonic are not inferior to digitalis, it is free from the disturbing action of the latter. There are so many claims made in favor of new drugs, and especially heart-tonics, that it makes one suspicious of them all; but having used adonidine for some time, I consider it a valuable addition to our therapeutics of heart-affections, and have not observed from it anything resembling the cumulative effect which at times, though rarely, follows the administration of digitalis. In this case the contractions of the heart, while they became more regular, were reduced to fifty-six per minute. He had slight vertigo and headache, which disappeared upon resuming the infusion of digitalis, while the adonidine was continued. This drug will never supersede digitalis in the treatment of cardiac dropsy, from its want of diuretic action, but in other cases this might prove a decided advantage. Without discussing the effects of the agent upon the cardiac dilatation and hypertrophy, and merely referring you to the relief from the dyspnœa and the increase in the strength of the pulse, I point out to you that all this was associated with a very considerable amount of cardiac dilatation or stretching, with very little hypertrophy. There is another patient in the ward with very decided hypertrophy in whom the adonidine produced disagreeable results: the heart's action became intensified, and attacks of palpitation came on upon slight exertion. I recall another case in private practice where the same result occurred: the heart was strengthened too much. This all shows that it is a decided heart-tonic, and also indicates its line of usefulness. In a given case of weak and disordered circulation, the nearer it approaches a condition of dilated heart the more benefit from the adonidine; the more it approximates hypertrophy and over-action of the heart, the more is this agent contra-indicated. In cases of weak digestion with weak heart, it is especially suitable.

CEREBRAL APOPLEXY — HEMIPLEGIA — PROMPT TREATMENT BY VENESECTION — RECOVERY.

In conclusion, I will ask your attention to a case which you have seen in its more acute stage. This was a case of apoplexy with left hemiplegia. The man has done

very well, but I thought that it might be of interest to you to observe the effects of treatment. When admitted, twenty ounces of blood were taken from his arm with evident benefit, and croton oil was given, which purged him freely. One drop of tincture of aconite was given every second hour at first; four days later he was given potassium iodide, a scruple four times daily.

You see that this man has recovered power to a very considerable degree, and the leg is regaining strength even more than the arm. Some facial paralysis remains. He has now reached the stage for local treatment, massage, friction, and stimulation of the muscles by the use of mild faradic currents.

It is always a nice question when to begin this local treatment after apoplexy. My rule is to begin rather late than early. I wait until voluntary power commences to return in the muscles. If it is begun too early we run the risk of increasing the brain-lesion. Later still, I usually give strychnine. I believe that harm is done by using either too early.

This patient has reached a stage in his history when the brain-malady is not active, and we will therefore use massage daily and electricity every second day.

There is still a trace of albumen in the urine. In every other respect he has strikingly improved. You remember that I told you, when he was the subject of discussion before, that the albumen in the urine had something to do with causing the hemiplegia: therefore its persistence now simply proves that the original view was correct.

ORIGINAL COMMUNICATIONS.

REPORT ON THE PROGRESS OF DERMATOLOGY.

BY ARTHUR VAN HARLINGEN, M.D.,

Professor of Dermatology in the Philadelphia Polyclinic.

(Continued from page 539.)

THE SYPHILODERMATA.

TWO papers have recently appeared upon hemorrhagic syphilis. In the first of these Horovitz (*Vierteljahresschr. f. Derm. u. Syph.*, Jahrg. xiii. S. 351) gives an account of two interesting cases observed in Auspitz's clinic. The first was a man, of 26, suffering from an early generalized syphiloderm of the papular variety, which was cured by mercuric inunction. He was then placed upon twenty-four grains of potassium iodide thrice daily, but within ten days an eruption of small red papules occurred upon the body and limbs which soon took on a hemorrhagic character. The potassium iodide was then suspended, but new lesions continued to come out for about twelve days.

Horovitz's second case was a young man, of 25, in the early stage of generalized syphilis, showing moist papules about the arms, etc., who also displayed a peculiar eruption chiefly upon the forehead, back, and extremities, excepting the hands and the feet. This eruption was composed of confluent lesions: in the centre of each a large flat papular lesion, and around this a hemorrhagic ring, the whole compound lesion in some places being as large as the palm of the hand. The patient was placed under observation without treatment, and the eruption gradually disappeared, being practically gone at the end of six weeks.

Horovitz theorizes at some length over these cases, but the first seems very much like an iodide-of-potassium eruption, while the last is worthy of attention whether the hemorrhage was due to syphilis or not.

Hartmann and Pignot (*Annales de Dermatologie et de Syphiligraphie*, 2me sér., t. viii. p. 1) put forth a paper on the same subject, but of a very different character, the whole matter being classified and treated under various heads, with illustrative cases. The authors conclude that in congenital syphilis there seems at times to be a true hemorrhagic diathesis. In acquired syphilis there is no proof of a diathetic influence producing hemorrhage from simple wounds. Even when the knife is used upon syphilitic lesions, serious hemorrhage is exceptional. Syphilitic ulcers do not bleed profusely, except where vessels may be laid open by the disease-process. Syphilis may, however, cause arteritis, and thus lead to softening of the walls of the blood-vessels, particularly those of the brain. Paroxysmal hæmoglobinuria is not unfrequently caused by syphilis, operating, as Murri thinks, both on the organs which form the globules and on the vaso-motor centres. Syphilis may give rise to cutaneous hemorrhages, (*a*) on the surface of pre-existing lesions, (*b*) by acting as a determinate cause of a purpura which shows itself in the secondary stage of the disease,

and with the usual symptoms of that affection.

Weyl, in his article on psoriasis in Ziemssen's Hand-Book, having asserted that syphilis has no influence upon psoriasis, Dorwig (*Vierteljahresschr. f. Derm. u. Syph.*, Bd. xiii. S. 149) asks the converse question, Has psoriasis any influence upon syphilis?—*i.e.*, as regards the development of the syphilodermata,—and believes himself in a position to answer the question in the affirmative as the result of his observation of a case of which he gives the notes. A young man came under his care suffering from an initial lesion of syphilis, who also displayed an extensive and well-marked eruption of psoriasis which he had had for eight years. When the generalized syphilitic eruption broke out, which took place with headache, fever, etc., about two weeks after he came under Weyl's observation, it was found that the syphilitic eruption had at many points supplanted the psoriatic lesions, the transformation taking place gradually and *in situ*.

Weyl contrasts the pathological anatomy of the psoriatic and syphilitic eruptions, and demonstrates how the peculiar enlargement and multiplication of the capillary loops in psoriasis favor the development of the syphilitic lesions. His views appear very plausible, and are worthy of further attention.

It is known that syphilis does not preclude the synchronous occurrence of the acute infectious diseases. These, however, suppress the appearance of syphilitic symptoms temporarily, but the latter return when the intercurrent acute infectious disease has run its course. An exception to this fact has, however, been asserted in the case of erysipelas, which is said to have a certain curative influence on syphilis.

Mauriac observed a number of cases of initial lesion and generalized symptoms yield to an attack of erysipelas, sometimes eventuating in a cure, but in cachectic cases unfortunately leading to a fatal termination. Deahna observed a case in which an attack of erysipelas removed the syphilitic symptoms, which returned in a milder form, to be entirely dissipated by a second attack. Other observers have noted similar cases, the erysipelas in some instances affecting only the syphilitic lesions lying in its path, in other instances affecting even distant lesions.

The question has arisen in connection with this subject, whether by weakening the intensity of erysipelas by appropriate cultures an efficient specific against syphilis would be obtained. Unfortunately for this theory, eruptions of lupus and non-syphilitic tumors have also disappeared during attacks of erysipelas, thus throwing doubt upon the specific effect of the erysipelas coccus upon the syphilitic element.

Moreover, occasionally the favorable effect of erysipelas upon such growths is offset by fatal results: *e.g.*, Jarnhe and Neisser inoculated a carcinomatous subject with erysipelas with a fatal result from the erysipelatous process itself.

Schuster gives three cases of simultaneously occurring syphilis and erysipelas which are quite interesting. One was that of a patient suffering from nasal syphilis, where erysipelas originated in a specific excoriation about the ala nasi, spread over the face and scalp, and ended fatally. The seeond was an old syphilitic patient, who had a similar excoriation about the ala nasi, and who while under treatment was attacked by very severe erysipelas starting from this point, which eventuated in recovery. Two years later, however, marked serpiginous syphilitic ulcers developed. The third case was a patient not suspected of syphilis, who had repeated mysterious attacks of facial erysipelas. The starting-point of these was discovered to be in certain old neglected or unseen syphilitic lesions of the nasal opening. These facts, Schuster thinks, prove erysipelas to differ in no way from the other acute infectious diseases in its influence upon syphilis.

Köbner (*Vierteljahresschr. f. Derm. u. Syph.*, Jahrg. xiii. S. 831) has something to say about the desirability of uniformity in recording cases of syphilis, and gives a scheme for setting down the history and various symptoms of cases of acquired syphilis and also the history and symptoms of cases of hereditary syphilis. The scheme might well be carried out with advantage, and deserves study by younger men because it shows the points of importance in the study of cases of syphilis.

The contributions to the study of syphilitic disease of the skin contained in our American special journal are not numerous. In fact, a single paper by Knoche on a case of "rupia syphilitica" confined almost exclusively to one side of the body,

the title of which explains its scope, is all that we have on the subject.

COMEDO.

Two articles on this affection have appeared this year, both in *Morrow's Journal*, and both by Dr. Ohmann-Dumesnil (*Jour. Cut. and Ven. Dis.*, February and July, 1886), who calls attention to what he calls double comedo, where pressure on the skin forces a plug of sebum discolored at each end out of either of two contiguous openings. The circumstance seems to be of little importance.

HERPES ZOSTER: ITS RELATIONS WITH H. FACIALIS AND H. GENITALIS.

Epstein, of Neisser's clinic in Breslau (*Vierteljahresschr. f. Derm. u. Syph.*, Jahrg. xiii. S. 777), says that the question of the identity of these various forms of herpes was raised by Bärensprung in his classical article on zoster years ago. Gerhardt supported this view, and suggested an examination into the relation between the facial herpes of acute febrile diseases and the rise in temperature. Just as there is usually a prodromal neuralgia in zoster, so in facial herpes an initial chill precedes the eruption by three days on an average. The initial chill seems to suggest the probable origin of the eruption; but to explain how the rise in temperature can exert a direct influence upon the minute twigs of the trigeminal, Gerhardt suggests that the nerve passes through a narrow bony canal along with a small artery, which is first narrowed and then enlarged by the febrile influence. The pressure of the nerve-trunk between this artery and the bony wall causes more or less irritation of the nerve-trunk.

In the case of herpes genitalis, Mauriac has been brought to the conclusion that this also is due to a nerve-lesion and is closely connected with herpes zoster. Epstein examines carefully into the *pros* and *cons* of the question, and analyzes carefully the views of prominent writers on the subject, finally leaning strongly to the conclusion that all the forms of herpes have a common pathological origin, however differing in their clinical appearance and course.

DYSIDROSIS.

George Thomas Jackson gives (*Jour. Cut. and Ven. Dis.*, January, 1886) a case, with chromo-lithograph, of this curious affection. The eruption affected the face, presenting the usual symptoms of large and small sago-grains scattered over the affected parts, and consisting of freely-distended vesicles with clear contents. The largest vesicles were about the size of a split French pea, the smaller ones were about the size of a pin's head. They were generally discrete, though here and there closely crowded together. When pinched, a clear fluid, with acid reaction, escaped from them. They did not rupture of themselves, and their cover offered considerable resistance to the lancet. The skin otherwise is perfectly normal and free from any appearance of inflammation. The only subjective symptom was a slight itching at times.

The diagnosis lay between eczema, herpes, sudamina, and dysidrosis, and this is carefully worked out by Jackson, who also gives a general account of the disease. He prefers the name "pompholyx," suggested by Robinson, but does not suggest any form of treatment.

PEMPHIGUS.

Sabin (*Jour. Cut. and Ven. Dis.*, 1886, p. 172) gives a case of "pemphigus followed by albuminuria," of which it may briefly be said that it was *not* a case of pemphigus, and that it was *not* followed by albuminuria. The case seems to have been one of the peculiar affection called by Bulkley "herpes gestationis," and by Duhring and other writers considered a form of dermatitis herpetiformis. The patient, a woman, suffered with brief attacks of a bullar eruption occurring in connection with three successive gestations. Six years after the last attack the patient died of Bright's disease, but no relationship between this and the skin-affection is shown.

In marked contrast to Sabin's paper is the thorough and complete study of "pemphigus vegetans (frambœsioides)" given by Neumann in the *Vierteljahresschr. f. Derm. u. Syph.*, Jahrg. xii. S. 157.

The affection is that formerly known as "frambœsia syphilitica," "mycosis syphiloides," etc., two chromo-lithographs of which are given in Kaposi's atlas under the name of "syphilis cutanea papillomaformis." It is not, however, syphilitic in its nature, and should be carefully differentiated from syphilis. The disease presents the following features. A few linseed-sized blebs appear, which at first are

flaccid, but later fill up and then break or are rubbed open. After a few days the raw spot takes on a warty growth, vegetating with some rapidity, and becoming hypertrophic and spreading in serpiginous forms. These vegetations secrete a thin ichorous fluid, which dries into an easily removable crust.

The earliest points to be attacked are the labia minora and majora, the oral and buccal mucous membrane, the lips, the axillæ. Later, the vulva, the anus, and the mucous membrane of the rectum are attacked. Even the vaginal portion of the uterus does not always escape.

In the male the oral mucous membrane, the neighborhood of the symphysis pubis, the inner surface of the thighs, and the nates are first attacked, so that at first sight the eruption looks a little like eczema marginatum. Occasionally the scalp is involved. The process goes on in the oral cavity, fauces, pharynx, etc., until a pitiable condition of excoriation and fissuring is produced, and when, by reason of closure of the nasal cavity by the lesions, mouth-breathing is practised, the lips and mouth become so sore that even food is taken with difficulty. As the affection goes on, every portion of the surface may be involved, the vegetating element, however, becoming less conspicuous and the lesions becoming mere blebs and excoriations, so that the surface may look as if burned to the second degree. In the latter stages of the disease, which is fatal, the lesions may take on a kind of gangrenous action, and an intolerable stench pervades the patient's apartments. Finally death ends the painful scene.

The closely-grouped lesions of pemphigus vegetans, when these are seated about the mons veneris, thighs, and anus, resemble closely the eruption of condylomata lata. The following points will aid the diagnosis:

1. The growths of P. vegetans spring from the surface, only surrounded by the bleb-wall; those of condyloma are surrounded by an infiltrated ring.

2. The loss of epidermis and epithelium in P. vegetans gives the growth a stippled appearance which is absent in condyloma lata.

3. Condylomatous growths as the result of syphilis represent a certain activity of the disease-process, and are usually accompanied by other symptoms; while also the tendency of the syphilitic eruption is to disappear in the long run, P. vegetans tends irresistibly from bad to worse, with constant decrease in the patient's strength.

Neumann gives notes of several cases of the nine which he has seen, and adds chromo-lithographs and microscopic sections illustrating the appearance of the lesions and their structure. He says that most of his cases were supposed to be syphilis, and much pain was caused by unfounded suspicion, not to speak of painful family scenes. This will excuse the rather full abstract above given.

LICHEN—LICHEN RUBER—LICHEN SCROFULOSORUM.

Vidal, in an article extracted from a forthcoming work on diseases of the skin (*Annales de Derm. et de Syph.*, t. vii. p. 133), appears to take quite a different view of the disease from that taken by the Viennese school. It is known that the Germans confine the use of the term lichen to one or two forms of disease, while the older English writers made it include a number of affections which the Vienna school masses under the all-inclusive designation of eczema or of prurigo.

Vidal takes quite a different view. He includes the prurigo of the Germans under lichen, and divides the latter affection into two main varieties: 1. Lichen simplex; 2. Lichen multiformis. The first of these he subdivides into acute, partial and general, and chronic, partial and general. The second variety is subdivided into mild and severe (*mitis* and *ferox*).

The varieties are described at some length, and with frequent use of expressions believed to have been long since obsolete, so that in reading this chapter one rubs one's eyes and wonders whether one has waked up in the times of Willan and Bateman.

This sort of thing will not succeed. It is useless to attempt to return to forgotten and forsaken nomenclatures and classifications.

A letter by Unna ("Sur la question du lichen") in the same volume of the *Annales* (p. 585) is chiefly taken up by a defence of an earlier article on the subject, but in it he gives expression to the following, which is worthy of attention by some of our younger dermatologists, who return from Vienna with the notion that all knowledge begins and ends there.

"That which we must guard ourselves against above all things is the influence of the 'school.' For the novice in science the school, with its established principles, its authoritative teaching, is an excellent institution, but it is a positive clog to the adept." In speaking further of the absence in Hebra's work of due acknowledgment of the labors of foreigners, Unna says, "The reason of this lacuna in the second edition of Hebra's work is to be sought alone in the peculiar custom of the Viennese school,—a custom which the 'system' of Auspitz and the younger Hebra's book are beginning to break through. This peculiar custom consists in declining to take the descriptions of foreigners in their intended meaning, but forcing them with more or less success into Hebra's classification, and adapting them to it whether or not. Our knowledge of impetigo contagiosa, of morphœa, of urticaria pigmentosa, of lichen planus, of myxœdema, of the dermatoses, of filaria, etc., which we owe exclusively to the English, renders this preponderance which they wish given to the local experience of Vienna quite untenable."

Brocq maintains, against Unna, the view that lichen ruber acuminatus is the same as pityriasis rubra pilaris.

Cases of lichen ruber and lichen scrofulosus have been reported by Boeck in the *Monatshefte* (Bd. v. S. 435), and by Gottheil in the *Journal of Cutaneous and Venereal Diseases* (vol. iv. p. 133). Boeck's series of cases are interesting as presenting the milder type of the disease similar to that met with in this country, and also as confirming some of Unna's views regarding the varieties of the disease.

COMMENTS ON SOME OBSTETRIC OPERATIONS.

BY GEORGE H. ROHÉ, M.D.

NOWADAYS the value of every medical or surgical procedure is determined by statistics. If a sufficiently large number of figures—whether these represent facts or not doesn't seem to matter—can be got together in favor of any surgical operation or plan of medication, no one dares question the conclusions drawn unless he can present a larger number of figures apparently proving something else.

At first sight there is nothing so unsympathetic as figures. As a matter of fact, figures themselves, in their proper places, never lie. But mortality statistics comprise something beyond the bare figures of so many cases, so many recoveries, so many deaths. They must take into account the circumstances of the cases in the literal meaning of the word,—*i.e.*, "matters attending an action that modify it for better or worse." This important point is too often completely lost sight of. The claims of partisans are always one-sided, and disfavoring events are ignored or suppressed.

Coming back, however, from this slight digression, I must point out first the power of precedent in obstetrical art. When it is considered that the problems to be solved in the delivery of a fœtus are so largely physical, it is certainly remarkable that the dicta of authorities are held in such profound veneration, and thinking for one's self is such a rarity.

The views to which I would give expression in this paper are the result of considerable reflection, and, although perhaps based upon insufficient personal experience, will, I trust, commend themselves as the result of the application of common sense.

The dictum of the old English master of the art, that "All meddlesome midwifery is bad," might, I think, be appropriately modified so as to read, "Ignorance in midwifery is bad." No one should be permitted to undertake the conduct of a case of labor who is ignorant of the mechanism of the process. This seems a bald truism; and yet it does not seem entirely superfluous in the light of our every-day experience.

I venture to assert, as a general rule, that in obstetrics there are no operations of election: either an operation is indicated or it is not indicated. It is the obstetrician's duty to make himself familiar with the conditions indicating the appropriate procedure to be adopted in any special case.

In all cases of labor, normal or abnormal, nature should be given a fair chance to do what she can towards effecting delivery. This does not mean that an unreasoning confidence is to be placed in the natural powers, but that no premature intermeddling should take place until the capacity of nature to deal with the case has been carefully measured. It does not

mean, either, that even in perfectly normal cases the accoucheur should leave matters entirely to the natural resources of the mother. Judicious aid rendered at the proper time, whether in the way of supporting the perineum, compressing the abdomen, expressing the placenta, or applying a binder after delivery, will be not only grateful to the patient, but often extremely valuable, although sometimes characterized as "meddlesome."

Let us take, however, a case in which nature's obstetric powers are insufficient, and in which art must step in to render assistance. How shall we be able to determine upon the indications for the various procedures?

In cases of slight disproportion between the head and parturient canal, if artificial delivery is necessary, it is usually held that the choice of operations lies between the application of the forceps and version by the feet. If each case be carefully and understandingly studied, however, it will be found that there is no choice allowable in a true scientific employment of the obstetric art, but that either the one or the other method must be adopted. There is no alternative.

Should the head present in an appropriate position, and the disproportion be due to a large head or slight uniform contraction of the pelvis, the os be well dilated, and the head engaged at the brim, but arrested there or in the cavity, the operation indicated is extraction with the long forceps. So long as the disproportion is not considerable enough to prevent the delivery of an unmutilated child, forceps extraction is not an operation of election, it is one of necessity, and the practitioner who considers any other procedure in such a case can lay no claim to being a scientific obstetrician.

If, on the other hand, there should be antero-posterior flattening of the pelvis, with moderate shortening of the transverse diameter so that the head cannot engage, or a malpresentation of the cephalic extremity such as a face- or brow-presentation, the correct indication would be to perform version and delivery by the feet. The indications for this operation are not, however, sufficiently known to allow a general rule to be laid down. Further study and observation are necessary.

The range of these two procedures is limited by a pelvic coarctation to three and one-fourth inches in the antero-posterior diameter. It is true that several obstetricians claim to have delivered living children by version in cases where the conjugate diameter was less than three inches; these are exceptions, and cannot be considered in establishing a general rule.

When the pelvic contraction is below three and one-fourth inches, or the diameters of the child's head are much greater than usual, on account of disease or malformation (hydrocephalus or certain forms of monstrosity), the disproportion between the head and the genital canal must be adjusted by one of the bloody operations either upon the child or the mother,—namely, craniotomy or Cæsarean section. Unfortunately, the diameters of the pelvis are not the only factors to be considered in establishing the indications for craniotomy. In some cases the child's head, as just pointed out, must also be taken into account. Inasmuch as in a large proportion of cases no trustworthy estimate can be formed of the size of the head in utero, it is sometimes difficult to reach a satisfactory conclusion, for so long as there is hope that the child may be saved and the life of the mother not endangered by the delay, craniotomy will be deferred. This doubt is more apt to arise in the lesser degree of pelvic contraction. When the conjugate diameter is less than three and one-fourth inches no hope may be entertained of delivery of an unmutilated child by the natural passages, and either craniotomy or some substitute for it must be performed in order to give the mother the best chance of life.

When the antero-posterior pelvic diameter is between two and a half and three and one-fourth inches, most obstetrical authorities advise craniotomy; if less than the former, Cæsarean section. With a pelvic canal of between two and a half and three and one-fourth inches antero-posteriorly, and no great encroachment upon the canal laterally, the child's body, decreased in size by perforation of the cranium and excerebration, can be delivered *per vias naturales* with comparatively little danger to the mother. The older statistics of craniotomy give a mortality of mothers as high as twenty per cent. Churchill's table gives two hundred and eighty-six cases with fifty-five deaths (19.2 per cent.); but this includes one hundred and twenty-eight cases with thirty-one deaths (twenty-

five per cent.) from the Dublin Lying-in Asylum, a hospital notorious for its high mortality-record. Smellie had forty-four cases with four deaths (nine per cent.), Churchill himself the same percentage, and Dr. Ramsbotham thirty-four cases with five deaths (14.7 per cent.).

Of the more recent statistics may be mentioned Schauta's, who had a mortality of 10.9 per cent. in seventy-three cases operated upon in the second Vienna obstetric clinic between 1876 and 1881.

In 1880 the late Professor A. F. Erich published a paper in which he gave the histories of eighteen consecutive cases of craniotomy in private practice without a single death. Between the date of publication of those cases and his death Dr. Erich performed the operation twice to my knowledge, both without any ill effect to the mothers. In one of these cases, in which I assisted, the woman (primipara) had been in labor for twelve hours. The patient had been under the care of a midwife, who had, in accordance with the custom of that class of practitioners, administered ergot in order to hasten the slow labor. The membranes had ruptured hours before, and the genital passage was hot, dry, and tumid. The head was large, and was arrested at the brim, into which it was forced firmly by the forcibly-contracting uterus. The patient was irritable and feverish. Version could not be performed. The antero-posterior diameter was not much diminished; I judged it to be about three and one-fourth inches. With the long forceps of Hodge earnest attempts to deliver were made, but without success. The indications were plain that craniotomy should be performed. The cranium was skilfully perforated by Dr. Erich, the brain broken up and evacuated, and in a few minutes a large child was delivered. The mother recovered without an unfavorable symptom.

The other unpublished case of Dr. Erich above referred to occurred in the practice of Dr. Shertzer. Owing to absence from the city at the time, I did not have the good fortune to see this case, which was described to me as one of extreme pelvic malformation. This case also recovered.

About two years ago, I had an opportunity of assisting Professor Opie in a case to which he had been called in consultation by the attendant, a physician with a large obstetric practice. The patient had been in labor for thirty-six hours. The forceps had been faithfully tried after the labor ceased to progress naturally, but without avail, although the pelvic space appeared ample. Professor Opie diagnosticated a hydrocephalus, and, after perforating and evacuating a large quantity of water, a dead child was speedily born. The patient, who had been much exhausted by her tardy labor, rapidly recovered.

In the summer of 1885 my aid was requested by a professional friend in the case of a colored woman in labor with her first child. She had been in travail about twenty hours when I saw her. The forceps, which had been frequently applied before my arrival, were again tried repeatedly, but without avail. No progress was made, although the pelvis was roomy and the cranium was not impacted. I suggested version, and on attempting to introduce my hand into the uterus discovered a large dropsical head. Perforation was indicated and performed, and, although the woman lived in a dark and damp basement-room in a filthy alley, she recovered promptly.

Five years ago I delivered a woman by craniotomy upon the after-coming head after decapitation. The patient had been twice delivered by craniotomy before by Professor Erich, and had declined the advice to have labor induced in the seventh month. The forceps were persistently applied, but on account of a considerable antero-posterior contraction the head could not be made to engage. I am now convinced that the persistent use of the forceps in this case was bad practice. Hoping to deliver a living child, I turned by the feet without much difficulty, but failed utterly in getting the head through the brim. The child was large, and perforation could not be accomplished before decapitation had been performed. The head was then perforated, and the skull broken up with Meigs's forceps and delivered. The patient, however, succumbed to shock, doubtless induced by the prolonged efforts with the forceps and the version. I am confident that an early craniotomy would have saved this woman's life. It was the operation indicated by the circumstances of the case.

A case similar in some respects was seen with Professor Erich. The patient had been in labor about twelve hours under the care of a midwife; but, as the head did

not engage, she wisely refrained from giving ergot. The forceps were applied under anæsthesia, and efforts made by both Dr. Erich and myself to deliver, but without success. Dr. Erich, with his usual practical sagacity and clear vision, saw that craniotomy was indicated, and proposed that operation. I appealed to him, however, to try and save the life of the child if possible. Contrary to his judgment, he yielded, and performed version without trouble, but considerable difficulty was met in extracting the child, which was born dead. The woman suffered considerably from shock, but rallied, to succumb on the fourth day to septicæmia.

To the twenty-three cases of craniotomy here related may be added three cases recently reported by Dr. H. J. Garrigues, of New York, none of which proved fatal. We have then twenty-six cases, with but a single death (3.8 per cent.). If in one of the cases the indicated operation had been performed at first, probably there would have been no fatal case to record in this series.

Craniotomy is contra-indicated when the conjugate diameter of the pelvis is less than two and a half inches. It is true that in some cases where the contraction is greater than this the mutilated fœtus could be delivered; but generally the operation is fraught with grave dangers to the mother. In Parry's statistics of seventy cases of craniotomy in pelves measuring two and a half inches and under, twenty-seven died, a mortality of 38.6 per cent. Doubtless, with antisepsis, much more favorable results could be obtained; but for these cases Cæsarean section is indicated; for while the dangers to the mother are very little increased by this operation, a considerable proportion of children might be saved. The more recent statistics of the Cæsarean section with suture of the uterine wound and its peritoneal covering are very favorable, although the American operators have fared very badly. Out of fifty operations by thirty operators since 1880, fifteen women were lost, a mortality of thirty per cent. But forty-three (possibly forty-six) children have also been saved. Of five operations done in the United States, however, all of the mothers and three of the children were lost. However, in the three lying-in institutions of Leipsic, Dresden, and Innspruck, out of twenty-four cases only one woman died, and all the children were saved,—a result so remarkable that one would be tempted to question the accuracy of the statistics if they were given on the authority of a less trustworthy writer than Dr. Robert P. Harris, of Philadelphia.

In all pelvic coarctations below two and a half inches in the antero-posterior diameter, then, the Cæsarean section should be performed; it is the only one indicated in these cases. But between two and a half and three and one-fourth inches craniotomy must still be regarded as the only operation compatible with safety to the mother.

The foregoing remarks are applicable to cases in which gestation has been completed or labor has begun. If the patient is known to have a contracted pelvis and the physician is consulted before the termination of the pregnancy, another procedure, the induction of premature labor, must be considered. This is indicated when the antero-posterior pelvic diameter is greater than three and one-fourth inches. In a pelvis having a shorter diameter than this, the delivery of a living or viable child is rarely accomplished by premature labor. The increased danger to the child at that age with a pelvis narrowed to three and one-fourth inches is due to the compression to which the head is subjected in passing through the canal. Inasmuch as the induction of premature labor is accompanied by more danger to the mother than craniotomy, the latter is indicated in pelvic diameters between two and one-half and three and one-fourth inches. If below the former diameter, Cæsarean section should be performed, primarily in the interest of the mother.

From the facts above stated, the following conclusions may, I think, be justly drawn:

1. The forceps, properly used, are the best means to aid nature in effecting delivery in head-presentations where the disproportion between the head and the genital passages is not too great to prevent delivery of an unmutilated child by the natural passages. In certain cases, especially of antero-posterior contraction, podalic version is the properly-indicated procedure. But in the present state of obstetrical art no definite rule can be laid down for the guidance of the practitioner in these cases.

2. In cases of pelvic contraction down to two and a half inches antero-posteriorly,

or of cranio-pelvic disproportion from other causes, if the forceps has failed, craniotomy is the only rationally-indicated operation, irrespective of the life or death of the fœtus. Fruitless waiting until the child dies by process of nature is reprehensible, and may, by adding dangers to the mother, become criminal. In these cases Cæsarean section is not an operation of choice or election.

3. In cases where the coarctation of the pelvis is extreme,—below two and a half inches,—or where there is extensive carcinomatous disease of the cervix or rupture of the uterus, the modern Cæsarean section with suture of the uterine wound, hysterectomy (Porro), or gastro-elytrotomy is indicated. Here also the operation decided upon should not be delayed until the dangers to the mother are too much increased.

4. In cases where the antero-posterior contraction of the pelvis is not below three and one-fourth inches, and the condition is known to the obstetrician before the pregnancy has terminated, the induction of premature labor in the seventh or eighth month may result in the delivery of a living and viable child.

5. The high forceps operation, version, craniotomy, Cæsarean section, and the induction of premature labor can only in very rare instances be considered as operations of election. Each has its definite sphere, when it should be employed, and in which it cannot be substituted by any of the others. It is only in very exceptional cases, conditioned by special circumstances, that this rule is suspended. In these cases the judgment of the experienced obstetrician, after taking into account all modifying circumstances, must decide which procedure is to be adopted.

TRANSLATIONS.

Hepatic Abscess in Childhood.—Dr. A. Bernhard reports three cases of abscess of the liver occurring in children (*Jahrbuch. für Kinderheilkunde*, N. F., vol. xxv. 4), and observes that, although less disposed to suppurative inflammation of the liver than in later life, yet cases of liver-abscess in childhood are not of such rare occurrence as is usually believed. The predisposing causes are the same in childhood as in adults, except diseases of the gall-ducts and gallstone abscesses, which in children hardly ever occur. The symptom-complex is very varied. For diagnostic purposes the following will serve:

1. Chills, with irregular, intermittent fever, in diseases affecting the area of distribution of the portal vein, are the most important and most constant symptom of suppurative hepatitis, with the possible exception of pain in the liver.

2. In abscesses of the liver complicated with pleuritic exudation, the line of dulness may be higher in front than at the back, and is generally irregular. In such cases experimental puncture can be performed, and the diagnosis made clear, if from above serous, and from below purulent, contents are withdrawn. Such aspiration is without danger when antiseptic precautions are observed. The putrid character of the pus, and the absence of fetid breath and of the characteristic signs of pulmonary gangrene in the sputa, point to a disease beneath the diaphragm, and to liver-abscess as the probable cause.—*Deutsche Medizinal Zeitung.*

Successful Treatment of Diabetes.—An interesting note was communicated by M. Martineau, physician to the Lourcine, to the Société de Thérapeutique, upon the treatment of diabetes. Within twelve years he has had the good fortune of obtaining sixty-seven definitive cures out of seventy gouty diabetics treated by the lithiated arsenical water. The mode of administration had been suggested by Prof. Rouget. It consisted simply in placing in the upper globe of a seltzer-water apparatus (Briet's), holding about a litre,—

1. A packet containing twenty centigrammes of carbonate of lithia;

2. A tablespoonful of a solution of arseniate of sodium (twenty centigrammes in five hundred grammes).

This is to be drunk at meal-time, mixed with wine. The contents of the apparatus should be enough for three meals at least.

The diet is not changed, or is somewhat restricted as regards starch, sugar, and fruits.

No special treatment was followed, and it is to the above prescription that the results were to be attributed. The result is not obtainable by lithia or arsenic given separately. Having waited to test this thoroughly before recommending it to others, M. Martineau felt warranted in demanding for it a fair trial.—*Revue de Thérapeutique Médico-Chirurgicale*, March 15.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 28, 1887.

EDITORIAL.

CONDURANGO REDIVIVUS.

GERMAN medicine has generally been regarded as almost synonymous with therapeutic scepticism. It must cause surprise, therefore, when a drug held in so little esteem in this country as condurango should claim the serious attention of eminent practitioners in Germany as a remedy possessing specific virtues in gastric cancer. American physicians have not had a very happy experience with condurango: in fact, if we remember correctly, its meteoric appearance in our therapeutic firmament raised quite an ethical controversy, the *disjecta membra* of which still occasionally turn up at the mention of certain names. But, having for a number of years rested in "innocuous desuetude," condurango has during the last two years received considerable attention from such notable authorities as Rühle, Binz, Immermann, and Riess. The latter, who is medical director of the Berlin City Hospital, in an article published in the *Berliner Klinische Wochenschrift* reports a large number of cases presenting the symptoms of cancer of the stomach, in which the drug was used with good results. Riess states that, as the result of his experience in upwards of one hundred cases, the remedy was not without success in a single case. From full notes of eighty of the cases treated with condurango and one hundred and sixteen treated without this drug, he has constructed a table which shows the following instructive results:

Of a total number of 80 cases which were treated with condurango, 53 died (66.3 per cent.), with an average duration of treatment of 39.5 days; the remainder, 27 (33.7 per cent.), were discharged (24 "improved," and 3 "cured"); they were under treatment for 54.8 days on the average. Of 116 cases treated without condurango, 107 died (92.2 per cent.), the average length of treatment being 22 days; the remainder, 9 (7.8 per cent.), were discharged (5 "improved" and 4 "unimproved"), the average duration of treatment being 11.7 days. Thus the average length of treatment of cases using this agent was 43.4 days, or nearly double that of those not so treated (21.2 days). The proportion of cases benefited by treatment with condurango was much larger, and the deaths were notably fewer.

In about twenty-five per cent. of the cases in which a distinct tumor of the stomach could be made out, the growth diminished, according to actual measurement, during the treatment. In twelve per cent. the growth disappeared almost entirely.

Riess claims that the effects of the drug are not simply those of a stomachic tonic, but that it seems to have a specific action in modifying the local and constitutional manifestations of the morbid process, and even, in favorable cases, arresting the latter.

The method of administration adopted by Riess is the decoction (one to twenty), of which six ounces are given per day, combined with syrup of orange-peel. In some cases he gives it in tablespoonful doses every hour. Patients do not object to it, as they so often do to other medicines in this disease. Immermann advises the wine of condurango as a good preparation.

Remedies for cancer of the stomach are not so plentiful that the profession can afford to reject any one recommended so highly as this one is by competent and experienced practitioners, without a trial. Further observation may cause us to revise the unfavorable judgment pronounced upon condurango by American physicians fifteen years ago.

PRÆPERITONEAL LIPOMATA.

HEINECKE, Wernher, and others have called attention to these curious and little-known tumors as the cause of certain obscure chronic painful affections of the abdomen. In recent numbers of the *Allgemeine Wiener Medizinische Zeitung*, Thonmayer has recorded six observations and placed the whole subject upon a practical basis. According to this observer, its omission from systematic text-books constitutes a serious defect in medical teaching. Præperitoneal lipomata occur most frequently in the linea alba. They consist of little fat masses which press through small openings in the fascia and develop underneath the skin. In the linea alba they occur with greatest frequency between the umbilicus and the ensiform cartilage; rarely they are found above the symphysis. They are of small size, not often attaining the measurement of a walnut, and can more commonly be felt than seen; upon pressure they are often exquisitely tender. Their presence is of importance because they tend to draw after them little pouch like processes of peritoneum, and thus favor the development of herniæ. Quite aside from this danger, they are of clinical importance as causing pain, vomiting, and meteorism, and simulating various painful affections of the gastro-intestinal tract. The pain is due to traction upon and irritation of the peritoneal process, and may suggest colic, neuralgia, dysmenorrhœa, and the like. It vanishes upon the reposition and retention of the tumor, or upon its extirpation. Præperitoneal lipomata are to be diagnosticated from herniæ by their small size, their elasticity upon palpation, and their marked sensitiveness. Treatment consists in their reposition and retention by a compress and belt. Reposition by taxis is usually easy, and a small opening may often be detected at the site of the little tumor. Thonmayer's cases, with the exception of one in which death occurred from other causes, were at once and permanently relieved. In view of these statements, systematic examination of the abdominal wall, particularly in the median line, should be practised in all obscure long-continued painful affections of the abdomen.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

TREATMENT of Malignant Tumors of the Bladder.—At the late Congress of Italian surgeons held at Genoa during April of this year, Professor Novaro, of Sienna, presented a dog in good health in whom he had, some three months before, successfully transplanted the opening of the ureters from the bladder to the rectum. This is a very important fact for modern surgery as regards the history of cancer of the bladder. Signor Novaro said, "I do not believe in the usefulness of any palliative operation in these cases, and I think it is preferable to attempt a radical operation which consists in the complete extirpation of the bladder. I have several times done this operation in dogs, and I have succeeded in taking away the bladder after having placed the ureters in communication with the rectum. The operation should be done as follows: first, an incision in the hypogastric region should be made, circumscribing a large flap with its base above, taking in all the thickness of the abdominal walls. Having uncovered the bladder, the ureters are attached to the rectum and the bladder taken away.

"It is only recently that surgeons have dared to attack the urinary bladder to get rid of the neoplasms that may have developed themselves at the expense of its substance. The deep position of the organ and the complex nature of the operations explain the present abstention. But cancer of the bladder is, of all the growths that may take place in the bladder, one that seems to have the least tendency to generalize itself, so that complete extirpation of the organ seems to offer the very best chance of cure. Professor Guyon has shown why this is true. To understand it is easy when we remember that the bladder possesses an anatomical structure quite different from most of the other organic structures, for M. Sappey says that its walls are deprived of lymphatics. This is intended by nature to prevent re-absorption of the urine; and we all know also that it is just these lymphatic vessels that are invaded by the elements of malignant tumors, and by them they extend to the whole economy and render most surgical operations useless, or at best only palliative in nature. However this

may be, the clinical fact is certain that whenever cancer takes its birth in the bladder it is likely to remain there, during a long time at least. So that, if its complete extirpation is made possible, a radical cure is obtained for cancer of the bladder. It is true that to conclude from operations on animals to man is not so easy as it seems, but still it is not impossible to believe that, with modern methods of antisepsis and improvements in operations, this dreaded disease will have found a radical cure before many years."

Chloroform and Tracheotomy.—A long discussion at the Paris Surgical Society on this question, and a late clinic by Dr. De Saint-Germain, give some varied views as to the advisability of using chloroform in tracheotomy. M. Le Dentu brought the subject up at the Société de Chirurgie by reading a paper sent in by M. Housel, of Boulogne, who advocated its use. M. Le Dentu thought that it was never used, and several of the members stated that it was as old as Chassaignac, and that it was "current money" in America. The opinion was much divided, but most inclined to the ideas expressed by Dr. De Saint-Germain in his clinic at the Hôpital des Enfants-Malades, so we will give a *résumé* of what he said, as his great experience deserves attention. It may be stated that his method of operation is of the one time and one motion order. The doctor said, "I have been asked why I did not take part in the discussion at the Surgical Society on the use of chloroform in tracheotomy. Well, to tell the truth, my ideas were not clear at the moment as to what answer should be made to this proposal,—something like the people who only find their brains at the bottom of the stairs. I talked it over by myself afterwards, and now that I am more at home in our little amphitheatre I will tell you what I think about the matter. I may be pardoned first for stating that I have made four hundred and two tracheotomies, and I have given chloroform thirteen thousand times, so I am not afraid of it. In nineteen the operations were made in adults, and seven I saw made by Krishaber. I have always been astonished at the resignation and calm displayed by the patients during the operation, and, asking them about the pain, they mostly answered that it hurt less than to have a tooth extracted or to have a boil opened. I have never seen any occasion to give chloroform, nor have I seen it given, and think it would be more of an impediment than anything else. As to children, it is demonstrated to-day that there is no use in operating early, so we wait until the last moment,—that is to say, when asphyxia has already commenced,—and it is well known that the child is at that moment in a state of anæsthesia, so that in this group of cases there is no use for chloroform.

"I now come to the cases where the child is not in the state of *perinde ac cadaver*, but is strong and ready to defend himself. Suppose the surgeon called in the middle of the night by a distant doctor to operate upon a child suffering with croup. Upon his arrival he examines the child, who in fear defends himself, clinging to the curtains and suffering from suffocation, but not yet with asphyxia. The parents object to the operation, and it is possible to wait an hour or two longer; but the surgeon must then go home, perhaps to be called when it would be too late: so the operation is decided upon. And here chloroform might render good service, it might be thought; but, first of all, the surgeon will need two aids, and it must not be forgotten that, as he has chloroformed the child, he must do the slow and dry operation indicated by Trousseau. But what risks with an anæsthetized child you run! If you let fall into its trachea a flow of blood, of which it cannot have any consciousness, and which it will not, therefore, make any attempt to reject, I leave you to imagine what happens if this blood is not expelled.

"Of the considerable number of children that I have operated upon, two died on the operating-table notwithstanding all I could do to save them: the first one from a mass of false membrane that the canula pushed down, and which I could not extract; the second from a syncope that seemed to take place on contact of the knife with the skin. Since that time I always address the parents about as follows: 'Your child will be certainly lost if it is not operated on at once, and tracheotomy gives it one chance in five of cure; but I must tell you that the operation itself is not without danger: for, notwithstanding all the care I may take, it is possible for the child to succumb in the middle of it. But, no matter what that danger is, I should not hesitate to perform the operation on my own child if it were in the state which yours is in at present.' I don't remember any parent that objected after such a speech; but if we add the danger of chloroform to the operation, can we say the same thing? No."

As a sort of *post-scriptum* to the above, it is interesting to say that Professor Brown-Séquard has made a number of experiments in his laboratory on dogs and monkeys, by which he proves that an incision of the skin made along the middle line of the neck will at once bring about an anæsthesia of the region in a radius of six to seven centimetres. Dr. Brown-Séquard was astonished to find, in the accounts given of people who committed suicide by cutting the throat, that they sometimes went on almost to sever the head, and with most people he thought it was a sort of insane courage. But on investigating the matter by experiment he found that even a slight incision of the skin of the neck produced an anæsthesia of the region. This was also studied to see how analgesia could be produced. It results from the facts shown by

Dr. Brown-Séquard that the skin of the neck possesses, in common with the larynx, but to a less degree, the power to inhibit the sensibility. So, if the surgeon can make the part insensible by a bistoury-cut, what is the use of chloroform in tracheotomy?

Treatment of Cold Abscess.—Dr. Barette, the present *chef de clinique* at Professor Trélat's service, gives in a late article a good account of the cure of these abscesses, which are so common all over the world. First of all, he calls attention to the fact that these patients are not only attacked with a local disease, but that their constitutions are more or less involved: so that we should not look upon it only in the surgeon's light, but also give a general treatment, which must vary with the patient. Hydrotherapy is important, exercise out of doors, and daily salt-baths (five pounds of rock-salt to the large bath-tub of water). To this add good food, milk, etc. Almost all the preparations containing iodine are good, and the best is cod-liver oil, four to six tablespoonfuls per day. When the stomach refuses to digest it, then change to iodized glycerin (two grammes to one hundred and fifty of glycerin), or iodized wine (one gramme of tincture of iodine to a quart of good Bordeaux wine). Or use the syrup of the iodide of iron. Change of climate, the mineral waters, and above all the sea-side, is to be recommended for those who can go or be sent. The maritime atmosphere, charged as it is with sodium chloride and vapors of iodine, with ozone, seems to penetrate the organism and forces internal combustion to its highest limits. Besides, here is to be found one of the most active forms of treatment, the cold salt-bath. Quite recently Dr. Cazin, of the hospital at Berck-sur-Mer, a hospital at the sea-side mostly for children, and M. Lejeune, of the Institut at Ostend, another sea-side curative establishment, showed what excellent results could be obtained by such institutions. They also give a sort of mucilaginous bath, formed of sea-weed and water, which contains a strong proportion of the iodine principles. (There is a chance for some one to erect such hospitals at Atlantic City or Cape May.)

As to local treatment of these cold abscesses, at present the modern methods here are but two in number: one is the injection of ether-iodoform, and the other is opening and scraping out. The first is Professor Verneuil's method. He thinks that iodoform is the best substance to destroy the bacillus of tuberculosis, and he added the ether to it so that its vapor would carry the agent to the remotest parts of the abscess. The iodoform is also absorbed, as can be proved by the examination of the urine, where it will be found: its action is powerful in modifying the constitution.

The injections used are one of iodoform five, ether one hundred, and a strong one of one iodoform to one hundred ether. First Dieulafoy's aspirator is used, No. 3 needle, and without changing the trocar the injection is made, not over three or four grammes being used in the large abscesses. The walls then swell up to quite a large size, but no one need be alarmed at this, as it gradually goes off, and cure often follows. We will not describe the well-known system of surgical intervention by large incision and *grattage*, but we may state that in very large abscesses, where all surgical aid is impossible, we have seen these injections bring about a very considerable amelioration of the general health of the patients.

False Testimony of Children: its Medico-Legal Aspects.—M. Motet lately related to the Academy of Medicine some very interesting facts on this subject, that can be applied by any physician who may be called in to elucidate such cases. There is nothing more moving than to hear a child tell the details of a crime which he pretends to have witnessed or has been the victim of himself. The natural way in which he speaks, and the simplicity of all his facts, give confidence, and public indignation goes on increasing as he tells his simple tale. One can hardly believe that they often invent it all, but such often is the fact.

M. Motet tells of a number of cases to prove this. One is of a little boy of seven, who did not come home all one night, and the day after he was taken out of the river, where he had thrown himself with the evident intention of drowning himself. His story was that a man, of whom he made a correct description, had met him and carried him off by force, and that finally he had thrown him in the river. His description of the man was so exact that the police had no trouble in finding the person, who was employed in the neighborhood in a museum of anatomy; but he quickly proved an alibi and was released. M. Motet was charged with the examination of the child, and in questioning the mother he found that for some time back he had slept badly, and that he had incontinence of urine; besides this, he lived in conditions that must have worked on his young imagination, for his mother was a newspaper-seller, and every day he heard of all sorts of crimes and scenes of violence. To add to this, the man he charged had lately come to settle in the neighborhood with his wax-show of anatomical horrors, and the child heard him crying out one day, "Walk in and see the head of Morin, who was killed by Mrs. H." (a celebrated murder-case of last year). It happens that the boy's name is Morin, and here was the moral shock which led to the whole trouble. No doubt the child, haunted by fear, took to dreams, and the idea of some danger menacing him was implanted in him. So one

day he is taken with a fright, and runs off to end it by jumping in the river. (The youngsters who run off after a course of the ten-cent novels to kill the Indians furnish an example of the same type.)

A curious one of the same style is that of a young fellow who walked in his sleep. Seen at the Hôtel-Dieu a few days ago, he seemed healthy, but it was stated that at night he got up and walked asleep, or sometimes fell down in a sort of fit, during which he said people did all sorts of things to him, and it might have led to a charge of some criminal sort. The doctors were puzzled a little, and all sorts of diagnoses were made, including epilepsy and hysteria, etc., until it was found that he had worms, a cure of which took away all the symptoms. Certainly the moral is that a doctor is to be called in to investigate these cases, and not a lawyer.

A similar case was that of a young man who was locked up in prison on some charge of petty theft, and made charges against his guardians that they had entered his cell at night and made obscene attempts on him. Worms again; and these, combined with sensations of anal pruritus and his unhealthy imagination from reading novels and bad books, led to his making charges that could only be cleared up by a medical investigation. So that it is to the medical profession, after all, that we must look for the clearing up of these delicate questions.

We must all remember in regard to children that their growing intelligence is always ready to seize upon the marvellous side of everything, that fiction of all sorts charms them, and that they have a most astonishing facility in giving a body to fictions they hear or read. Again, the little ones are generally influenced by a nervous mother, who will question them in such a way as to suggest to them a certain line of ideas which they will follow. Witness the case here lately of the little boy who plays truant from school, and, returning, his mother fancies from his garments being deranged that some wicked attempt has been made on him. She questions him from this point of view, and he, not knowing what to say, assents to what she says, and on the father's return repeats all as she says it to him, and the poor man, scandalized, goes for the grand question, Who did it? and, forced, as it were, to answer, the child names a neighbor, who is at once arrested and has some difficulty in proving an alibi. Professor Charcot has frequently shown cases like this. Some weeks ago a young hysterical girl, during a period of mesmeric state, was told that she had been given a loan of fifty francs. Another day she was asked where and how she got a certain piece of gay ribbon she was wearing, when she at once stated that she had gone out one afternoon and bought it, and got it in a certain street which she named, and that she paid twelve francs for it. In analyzing this it was found that it all arose from the suggested loan of the fifty francs, which was never given to her; this had passed in her brain as a fact, and she at once invented the rest, as she had not been out of the hospital, and the ribbon had been left there for her by one of her relations without her knowledge. In legal medicine a careful study of these facts, with clinical experience, will mostly be enough to clear up many a difficult law case, if followed up with a little patience by a careful physician.

Treatment of Angina Pectoris.—Recent discussions before the Société Médicale des Hôpitaux have brought this question to the front. Two theories are brought forward to explain the very painful attacks that characterize this malady. One is the nerve-theory, which looks upon these manifestations as a neuralgia of the cardiac plexus, and attributes the serious cases to a sort of neuritis of the same plexus. This neuritis was discovered anatomically in 1863 by Lancereaux, and it was well developed by Professor Peter as long ago as 1871.

The second theory is the arterial one, which attributes angina to an organic stricture or a spasmodic one of the coronary arteries of the heart, and in general to all the various causes that bring about an ischæmia or anæmia of the myocardium. This theory, spoken of by Hunter, Parry, and others, had been abandoned, but has been taken up again by Germain Sée and Potain, and it has again been upheld by M. Huchard during the recent discussion. For this last author the attacks that have been observed in neuropaths, and which have been invoked to sustain the nervous theory, are *false anginas*, and these pseudo-anginas show themselves at all ages. They are characterized by the frequency of the attacks and by their periodic appearance, often at night; also by their duration, which is often very long, and by the seat of the pain, which is at the lower part of the cardiac region. The nature of these pains is similar to a sensation of fulness or tension of the heart; they are more painful than dangerous, and cure in every case, notwithstanding the medicine given or the doctor attending. A recent thesis calls them "angina of the chest of an hysterical variety."

What a difference there is between the real attacks of angina pectoris and these symptoms! says M. Huchard; for in true angina pectoris it is particularly to the age of the affection of the arteries, such as arterio-sclerosis, that we must look: as a great physician said about this, "A man has just the age of his arteries." Again, the attacks are not often spontaneous, and mostly come on after a quick walk or some unusual effort, or even a simple movement which is so quick that a patient of Parry's is reported to have said that "he felt the extremes of pain and feeling well in an instant." The pain is also exactly under the sternum, and it is agonizing while it lasts: as Seneca said, who was himself a sufferer, "For

all other pains one suffers, but in this one seems to give up his soul." Real angina left without treatment almost always terminates by death, and the explanation of its gravity is found in the concomitant lesion,—that is, the state of anæmia of the myocardium, which is proved by the sudden cases of death or faintness without pain.

The anatomical proofs are as convincing as the clinical, for M. Huchard has some ninety observations where the lesions of the coronary arteries are shown, and in experimental physiology the spasm of the coronary arteries is admitted. It is true, however, as M. Moutard-Martin says, that there do exist some cases of obliteration of these arteries in which no angina was observed, but it may be that here the collateral circulation had time to take place without bringing on any of the effects of cardiac anæmia. These theoretical ideas have an important practical importance, because if the attacks of angina are nothing more than anæmia of the heart's substance, and exist only in cases of aortic and arterio-sclerosis, they present a double elevation of the arterial pressure, and we must therefore abandon all the therapeutical measures that are capable of increasing *vaso-constriction* and arterial tension, such as digitalis, ergot of rye, and belladonna, and give, on the contrary, those medicines that produce *vaso-dilatation* and the diminution of the vascular tension. This is why nitrite of amyl and nitro-glycerin, which was spoken of by Lauder-Brunton, produced such good effects in attacks of angina pectoris, and for the same reason injections of morphine did good, but they could not cure the disease that the arterial trouble caused. For this purpose the use of the preparations of the iodide of sodium is proposed, as they have a special action on the arterial walls, while they cause the arterial tension to fall considerably, and the result of M. Huchard's experiments is that this preparation constitutes the real and only cure for this condition. He says that the potassium iodide when long continued becomes a heart-poison, and the sodium salt must be given. He gives it for fifteen to eighteen months at a daily dose of one to three grammes, with an interval of a week's rest in each month. His statistics give a result that the mortality has fallen from ninety-five to thirty per cent. of cases.

It must not be supposed that during this discussion M. Huchard and those who follow his ideas had it all their own way, for while some said that they had success with it, others, such as M. Guyot, said that they had given it without any success; but the near future will decide if M. Huchard is as correct and as sure of his facts as he says, for every case known is now being carefully studied, and further results will be ready in time for the International Congress meeting at Washington.

The Congrès d' Ophthalmologie.—There is a very interesting yearly meeting of this Congress now being held here, and a large attendance of eye-surgeons is present. We notice the name of G. T. Bull, of New York, who presents a new optomètre. Professor Panas, Landolt, and all the prominent men have presented papers, but they are too long for our letter. We will only call attention to some remarks of Dr. Abadie, of Paris, "on the importance of local medication in ocular therapeutics." He said that formerly they looked only to the constitution of the patient and the hope of a reaction of the organism, but now, while still taking into account the nature of the subject, an attempt is made to destroy the pathogenic element directly: as an example of this may be cited lupus of the face, which all the anti-scrofulous medicines do nothing to stop, and yet scarification and cauterization with the galvano-cautery will cure it readily. No ophthalmologist will deny the good effects of yellow precipitate in the scrofulous ophthalmias of children; and, thanks to the use of cocaine, new local applications can be tried. "So we have lately incorporated iodoform with lanoline, which has a great penetrating power, and we have obtained excellent results in tuberculosis of the iris with daily massage of the eye with a pomade made in this way. In the choroid diseases, where the mercurial medication is indicated it also combined with lanoline will permit the drug to penetrate into the thickness of the ocular membranes, where it is hoped the curative influence will be still greater. With lanoline we have all the elements of a new local eye-medication which is easy for all of us to apply according to the indications, and which should be fertile in good results, judging from what has already been seen."

THOMAS LINN, M.D.

PARIS, May 9, 1887.

PROCEEDINGS OF SOCIETIES.

AMERICAN SURGICAL ASSOCIATION.

THE Eighth Annual Meeting of the American Surgical Association was held May 11 to 14, inclusive, in the reading-room of the Army Medical Museum, Washington, D.C.

The Association was called to order at 11 A.M. on the 11th instant by the President, Dr. Hunter McGuire, of Richmond, Virginia, who delivered the President's Address, taking for his subject

THE NEED AND VALUE OF CO-OPERATIVE WORK IN SURGERY.

He spoke of the necessity and advantage of co-operative work, and afterwards suggested several changes in the management of the meetings of this Association. The day has

passed when the dictum of one man, no matter how exalted he may be, is received without question. Disease presents problems peculiarly difficult of solution, for we cannot apply to the human machine the fixed rules by which inanimate bodies are governed. The result of work in private houses and in public hospitals must be different. Besides this, it is necessary to get rid of the rubbish with which current literature is flooded by ignorant but ambitious contributors. This becomes a comparatively easy task, however, when we are confronted with the problem of knowing when to reject material presented by skilful but unscrupulous workers, who to gratify their own personal vanity make false returns of their labors.

In concluding his address the President made the following suggestions:

1. The appointment annually of a business committee to prepare the work of the Association. Two general subjects in surgery should be selected to be discussed at the morning sessions of the first and second days of each meeting.

2. The address of the President and other papers should be limited to half an hour, and those who take part in the discussions to fifteen minutes.

3. The abrogation of Article IX. of the Constitution will allow us to admit to Fellowship some men in this country who are really needed in the Association. Although believing in the rigid observance of the Code of Ethics of the American Medical Association, and the absolute necessity of its enforcement in that body, there is no need for it in our Association. The only code that we should have is scientific work.

4. The report of the committee with reference to the American Congress of Physicians and Surgeons should be adopted.

5. The constitution should be so amended that propositions for membership shall lie over for one year. The qualifications for Fellowship should be age, experience in surgical work, scientific attainments, with general culture.

A committee was appointed to take into consideration the suggestions offered by the President (Drs. S. W. Gross, C. H. Martin, D. W. Yandell, Moses Gunn, and C. Johnston).

The Association then went into Executive Session with closed doors.

Afternoon Session.

F. S. Dennis, M.D., of New York City, read a paper on

THE EXPLORATION OF THE BLADDER BY THE SUPRA-PUBIC METHOD.

The supra-pubic operation of to-day is practically the same as the old operation: the only change has been an improvement in *technique*. The first reported operation was that of Franco, in 1561. From that period to 1879 cases were not numerous, but from 1879 to the present time the operation has been done with such success as to attract attention throughout the world. The time is not far distant when practically the only two operations for vesical calculus will be supra-pubic lithotomy and litholapaxy. Supra-pubic lithotomy is simple in *technique*, safe in execution, free from injury to the reproductive organs, radical in results, curative in application, and brilliant in statistics. The many serious accidents attending the lateral operation are entirely avoided.

Technique of Operation.—For a few days before operation a milk diet should be employed. The day previous to operation the bowels should be moved with castor oil, and on the morning of the operation an enema should be used so as to empty the rectum for the introduction of the rubber bag, and the abdomen should be washed with an antiseptic solution. After the patient has been etherized, the surgeon should introduce a rubber bag into the rectum, above the internal sphincter, into which twelve ounces of warm water are to be introduced. This quantity will have to be increased or diminished according to circumstances. The danger of rupture of the rectum in elderly people and in young boys should be borne in mind. The urine should be withdrawn, and six ounces, more or less, of an antiseptic solution introduced into the bladder. The catheter may be left in the bladder and stopped with cork, and this will serve as a guide to cut upon. The distention of the rectum and bladder increases the distance from the pubes to the anterior cul-de-sac of the peritoneum to three inches. The incision should be made in the median line, and should extend for three or four inches above the pubes. When the transversalis fascia is reached, the use of retractors (on the principle of the eye-speculum) facilitates the operation. Having divided the fascia, the end of the catheter can be felt and cut upon as a guide. The bladder may then be seized with two tenacula and opened. Where free exploration is desired, sutures are introduced on each side of the incision. The stone is removed either with the fingers or forceps. The bladder may then be washed out. A catheter should be introduced through the urethra, but not left longer than twenty-four hours, on account of the danger of exciting traumatic urethritis. In most instances the wound of the bladder should be left open. In cases of calculi the condition of the vesical tissues is such that primary union is unlikely. In certain other conditions, such as rupture, the wound may be closed, for here the condition is different. The abdominal opening is to be closed and a tube introduced.

The operation is indicated (1) for hard, large calculi, and in persons suffering with paraplegia and deformities rendering lateral

lithotomy difficult; (2) for removal of certain foreign bodies, such as hair-pins, etc., or for the treatment of chronic cystitis; (3) in cases of tight stricture, fibroma of prostate, tumors of the bladder; and (4) for rupture. In its extraordinary simplicity, its reduced mortality, its freedom from danger, and its safety for the general practitioner, it compares well with litholapaxy.

The speaker had collected one hundred and twenty-four cases of supra-pubic operation for stone done since 1879. Previous to this date the rate of mortality was thirty per cent. Since then the mortality has been reduced, there being eighteen deaths, a mortality of fourteen per cent. Seven of these deaths may be justly excluded, giving a mortality of nine per cent. According to Sir Henry Thompson's statistics, the death-rate from the lateral operation is twelve per cent.; according to the same authority, the mortality of lithotomy is six per cent. In considering the mortality of this operation, two facts are to be considered. The mortality may be improved by more rigid antiseptic precautions. The second fact is that the operation has been limited to the largest stones. When the smaller stones are included the death-rate will be reduced.

Specimens and models showing the position of the bladder under various conditions were then shown.

John H. Packard, M.D., of Philadelphia, presented a paper on

SUPRA-PUBIC CYSTOTOMY FOR OTHER PURPOSES THAN THE REMOVAL OF CALCULI.

The history of the operation as it appears in cases recorded from 1750 to 1886 was briefly discussed, and the opinions of authors in regard to the hypogastric operation in general, and especially with reference to the evacuation of urine, were next given. In regard to the anatomical relations of the peritoneum to the bladder and abdominal walls, much diversity of opinion was found to exist.

In 1883 the speaker had removed by supra-pubic cystotomy a piece of shawl-pin five inches in length, which had been passed through the urethra. Since then he has done this operation a number of times. In cases of retention of urine from stricture, where a fair attempt to pass an instrument fails, he draws the urine by aspiration. In a short time subsequently an instrument can usually be passed. He did not recall a case in which it was necessary to repeat aspiration.

The following cases were cited:

July 7, 1855. Mr. G., 85 years old, had retention due to enlarged prostate. The bladder was greatly distended. The urine was drawn off with a long catheter; but, as he desired more permanent relief, supra-pubic cystotomy was performed, and a glass ovariotomy tube bent like a tracheotomy tube was introduced. The patient improved decidedly, but suddenly died July 9, from heart-failure the result of sudden exertion.

J. C., aged 43, came under observation January 21, 1885, at the Pennsylvania Hospital, with a history of retention the result of old stricture. The bladder was greatly distended, and no instrument could be passed. There were frequent chills and profuse sweats. The next day Dr. Thomas G. Morton made a perineal incision, opening an abscess; the catheter then passed into the bladder. The following day the bladder was again distended. Supra-pubic incision was then done. A catheter passed through the abdominal opening, and the neck of the bladder came through the perineal wound. On February 7 a large mass of slough came from the abdominal wound. The patient then rapidly improved, and was discharged cured April 21.

H. F., 43 years old, had retention for four days. The penis, scrotum, and skin of abdomen were swollen, tense, and rigid. Free incisions were made: the bladder was opened and a tube introduced. On June 4 an instrument was passed by urethra; on July 13 the patient was discharged, and has continued well.

Mrs. S., aged 63, admitted with enlarged prostate and frequent attacks of retention. August 13, 1886, supra-pubic incision was performed and the bladder opened. Although the condition was improved, the patient died of exhaustion August 29.

The next two cases occurred at the Pennsylvania Hospital within the past few weeks.

W. E., aged 70, was admitted April 24, 1887, with retention due to enlarged prostate. Supra-pubic cystotomy was performed and a large quantity of putrescent urine removed. A rubber tube was passed into the bladder. The urine contained albumen to the amount of one-half its bulk; granular casts were also found. A typhoid condition developed, and the patient died on the fourteenth day after admission.

R. W., aged 40, was admitted the same day. He had double inguinal hernia and double hydrocele. He had passed no urine for fourteen hours. Catheterization was attempted without success. Supra-pubic incision was then performed, and a rubber tube introduced. He has done well since then, and is beginning to pass some water by the urethra.

Concerning the method of procedure, the fullest antiseptic precautions should be observed in these cases. In most of the cases on which the author had operated, the question whether or not the bladder should be distended had not presented itself, as the bladder was already over-distended. The bladder should never be more than moderately distended, not more than six or eight ounces of a boric-acid solution being employed. To retain the water in the bladder, a convenient method is to bend the urethra on itself and hold it in this position. There

seems to be more advantage and less risk from the distention of the rectum. Many writers recommend that the bladder be steadied by an assistant; but this was regarded as needless and objectionable.

The incision through the skin should be free enough to give ready access to the deeper parts. When the bladder is reached, it is desirable to secure it in some manner before puncturing; for this purpose a small double hook may be used. A small tenaculum may answer. When a large opening is to be made, a double ligature is perhaps the best device. In cases of retention, the curved trocar and canula may now be at once used. The canula should afterwards be substituted by the tube. The speaker's custom is to make the opening in the bladder just large enough for the tube. The proper point for making the opening seems to be about at the middle of the exposed portion of the wall of the bladder, which would be about one inch or one and one-half inches above the pubes.

The drainage-tube should go well into the bladder, and have lateral openings only near its extremity. The external end may be closed with a cork or clip or by bending it. In old men with atonied bladders he had sometimes used glass tubes. If a large opening has been made in the bladder, it may be closed around the tube with a few catgut sutures. The tendency of the wound is to close quickly, except where the tissues as well as the general system are in bad condition. The edges of the wound in the skin can be apposed with sutures of catgut or silkworm-gut.

In concluding, the speaker asked, "If the supra-pubic section had been first tried and generally adopted, is it likely that the perineal operation would have been afterwards performed, on account of its greater ease, simplicity, and efficiency?"

The next paper,

TO WHAT EXTENT CAN WE CLASSIFY VESICAL CALCULI FOR OPERATION? WITH A REPORT OF CASES AND REMARKS ON THE DIFFERENT METHODS EMPLOYED,

was read by A. Vanderveer, M.D., of Albany, New York, who communicated the detailed histories of forty-one cases upon which he had operated. The various methods employed were lithotomy, rapid dilatation of the urethra, and Bigelow's operation (litholapaxy). Among them there were seven cases of perineal lithotomies, with two deaths (of very old men with large calculi) and five recoveries. Of attempted litholapaxies and an immediate perineal lithotomy there were two cases, both resulting in death,—one occurring in the speaker's practice, the other in the practice of a friend. Both were large stones, the patients presenting a history of much suffering through many years. Of dilatation of the urethra in the female and washing out of fragments or removal of stone entire there were six cases, all recovering with no complication whatever. Of urethral calculi in the male there were four cases, all recovering. Of simple lithotrity in the male there was one case, followed by recovery.

Of litholapaxies attempted but not completed there were four cases, three ending in death, and one (the stone hiding in a sac) later underwent perineal lithotomy and recovered. One was probably complicated with some form of tumor of the bladder and a history of chronic disease of the kidneys. One was a case of chronic alcoholism, one was complicated with sacculated bladder, and the last two were cases of surgical kidney of the gravest character.

Of the litholapaxies in the male there were eighteen patients, having twenty-two operations, four requiring a second operation. Of the number sixteen recovered and two died; of the latter, one after the first and one after the second operation.

With reference to supra-pubic lithotomy, the author said that the operation must necessarily deal with severe cases of large, and in some instances sacculated, stone. He did not believe that we should ever expect from it as great a percentage of recoveries as from rapid lithotrity. A table of reported cases of supra-pubic operations was given, showing in one hundred and forty-two adult cases a mortality of twenty-two per cent.; in children under fifteen years of age, one hundred and thirteen cases gave a mortality of 10.5 per cent.

The operation of litholapaxy is certainly indicated where the stone is small or of moderate size. Contrary to the teachings of a few years since, this can be done in very young male children with proper instruments. In male adults, if there is severe chronic cystitis, no matter what is the size of the stone, the supra-pubic or some form of perineal lithotomy seems best. The cystitis can then be successfully treated, and there is less danger of a recurrence. The speaker thought that it would be found by future statistics that cystitis has much to do with the necessity for a second or third operation. He thought that the condition of contracted bladder in the male with adhesions had not received the attention which it demanded. This must in some instances embarrass supra-pubic lithotomy. On anatomical grounds, the supra-pubic operation will be much simpler in the youth, as the bladder is much higher in the pelvis at this time of life. In girls rapid dilatation or supra-pubic lithotomy will undoubtedly reach all cases. In adult women vaginal lithotomy may be added.

The discussion of these papers was postponed until Thursday morning.

Adjourned.

(To be continued.)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

MEETING OF APRIL 7, 1887.

(Continued from page 550.)

LABOR COMPLICATED BY LARGE HARD HEADS.

DR. M. PRICE was called to this patient three weeks before her delivery. She informed him that she was in labor, and that her time had expired. Examination showed the cervix but little dilated, the os not being larger than a silver quarter. There was quite a discharge from the vagina. The pains were at short intervals, and were unquestionably labor-pains. The woman was in good condition, and he had no doubt that labor would go on. He left, giving instructions to send for him if the pains increased, and that if not sent for he would call next day. He had attended this woman in two previous pregnancies, both children being large and the labors tedious: so he anticipated that this one would be a slow labor. The next day the pains were less than on the previous day, and there was no change in the cervix. He did not hear again from her for three weeks, when the husband called and stated that his wife had been in labor all night and all day. He now found the cervix wide open, but the presenting part of the child so high up that he was not able to say what part was presenting. Passing the entire hand into the vagina, he found a vertex second, but the head would not engage. After waiting two hours, he found the head had been pushed to the side of the pelvic inlet, with the occiput resting on one side and the neck and shoulders on the other, and determined to ascertain the difficulty. He pushed his hand up into the womb, and had no difficulty in bringing the head back to its first position, but found that it was completely ossified. There was no pulsation in the cord that he could detect, and he at once decided to deliver by turning, as he thought he could deliver the child in that way sooner than in any other. He at once secured the feet, and soon had the body and arms delivered. The forceps were applied to the after-coming head, and it was delivered after quite a pull at the superior strait, but with ease through the soft parts without the instruments. There was no injury to the mother, and she made a rapid recovery. The child was still-born. Its head measured sixteen inches in occipito-frontal circumference. There can be no doubt that the mother's pelvis is much above the average size, as a head perfectly ossified could not have passed through a pelvis of less than sixteen and one-half inches, as the soft parts would take up at least one-half inch. Standard authorities give the circumference of the female pelvis at the inlet at from thirteen to thirteen and one-half inches.

ABDOMINAL SECTIONS.

Dr. JOSEPH PRICE: In reporting a mixed group of cases treated by these methods, of which Dr. Tait has been the first and chief advocate, I desire to make brief reference to Dr. T. Gaillard Thomas's article on "Laparotomy as a Diagnostic Resource," published in the *Medical News*, Philadelphia, December 11, 1886. Therein Dr. Thomas expresses in full Mr. Tait's views. They are simply, without the mention of Mr. Tait's name, an embodiment of the views given vent to by Mr. Tait while on a visit in America in the autumn of 1884. Dr. Thomas would select the text of Mr. Tait's law, his own axiom, as a motto for the walls of a hospital devoted to abdominal surgery: "When a doubt as to the diagnosis of an abdominal neoplasm of serious character or of certain obscure pathological conditions of the abdominal cavity which threaten life exists, give the patient the benefit of explorative incision." Mr. Tait, in like clean and terse English, expressed the same view in a clinical lecture at the Hospital of the Jefferson Medical College, September 15, 1884, when he said, "My experience teaches me that it is a surgical crime to allow a patient to go to her grave without operation where it offers a possibility of relief."

Dr. Thomas, with great frankness, reports five cases as examples of the class in which he had to regret non-interference on his part: cases in which "we" or "I" decided against operation. The patients died. Further he says, "I regret to say that I could more than double the number of cases illustrating this part of my paper. Few such cases occur to me now, for the very reason that I am a strong advocate for explorative incision as a diagnostic resource."

As to another class of cases in which Dr. Thomas meets with happy results, he reports as follows: "There is a class of cases in which in my hands explorative incision has yielded such brilliant results that I shall devote full consideration to it. I allude to cases of ascites in the female."

Mr. Tait, in the address I have referred to, gave as an example in point a case operated upon four years previous. "The patient, a young lady, had an enormously enlarged abdomen, due to ascites,—a fact I had recognized. I opened it by incision for exploration and drainage: by this means the fluid is evacuated just as well as with the trocar; but you cannot feel anything with a trocar; but with a clean cut of two or three inches you can introduce one or two fingers and find out the actual condition of the pelvic organs as you can in no other way."

The pioneer work done by Mr. Tait, his influence in exploratory work and treatment of diseased conditions of the tubes, is referred to by Mr. Greig Smith in a very fair and generous spirit. "Tait's name is mainly connected with inflammatory diseases of the tubes, and his influence has been strongly felt in the substitution of operation for actual disease as against vague nerve-symptoms."

I am strongly of the opinion that an incision which admits only two fingers and not the whole hand is a sufficient incision. Dependence upon fingers skilled in manipulation will serve best and effectively guard against danger in any pelvic operation. Herein I differ from Dr. Thomas, who urges, "Make an incision which will admit the whole hand: one which will admit two fingers only is hardly warrantable." There is great danger in multitude of fingers of irritating the bowels with the hand, and further running great risk by exposure.

Many fatal results attend men beginning the study and practice of surgery of the abdomen. This is illustrated by the statement of an abdominal surgeon: "I do not count my first thirteen cases, because I was learning how to do it." In this there was considerable Rip Van Winkle arithmetic; "We won't count this one." The present good results in the hands of young surgeons must not be attributed to the taking advantage of all the so-called "latest antiseptic improvements." In this relation I will make brief allusion to an experience with well-trained young surgeons, six in number, doing nine pelvic operations due to inflammatory trouble, suppurating, adherent, and matted together pelvic viscera. The operations were all completed with but one death, notwithstanding they were all bad cases.

In illustration, I present a specimen of

PYOSALPINX,

removed by Dr. Thomas G. Morton. This patient had an enormously-enlarged abdomen. She had been seen by a prominent gynæcologist, who had plainly stated that there was no ovarian trouble, and recommended tapping, which was done. It is my impression that by the first tapping the large cyst was ruptured; the dropsical accumulation followed. Dr. Morton found upon examination, after repeating the tapping (the patient refusing any other operation), a small tumor or collapsed cyst. He refused to repeat the tapping, and urged section. He kindly asked me to see the patient. Upon examination, I was fully satisfied of the correctness of Dr. Morton's diagnosis, and agreed with him in urging section. It was immediately done. Extensive adhesions had developed from the tappings; free hemorrhage followed. He removed a large collapsed cyst, and by irrigation large quantities of old clot. An interesting feature of the case was the existence of two pedicles, the pelvic and a fan-shaped one over the diaphragm and stomach. The case presented very interesting and instructive features. Result, cure.

PYOSALPINX.

The next case, Mrs. D., white, æt. 18 years, on October 31, 1883, presented herself at the Philadelphia Dispensary, complaining of attacks of free bleeding and of pain in the left groin and left submammary region, intensified by locomotion. On examination, the uterus was found low down and retroverted; the left ovary was tender. On June 16, 1885, vulvo-vaginal gland enlarged and tender; abscess incised and packed. On July 1, 1885, she complained of pain in the back, left shoulder, and left inguinal region. She was put on general treatment. Menstruation was normal. November 9, 1885, examination showed the uterus retroverted and the ovaries tender; vulvo-vaginal glands enlarged; abscess incised and packed. November 25, 1885, the uterus had been treated for its displacement, and at this time was found in good position; both ovaries were enlarged and tender; the right ovary was the largest, the left the most tender. February 24, 1886, uterus drawn slightly to left. May 24, 1886, complained of pain on coition. January 25, 1887, pain in right inguinal region. On examination there were found tortuous, cystic, boggy masses filling up the whole right side of the pelvis.

January 26, 1887, Dr. Price opened the abdomen in the median line, the incision being enlarged to three and a half inches on account of deep adhesions to all of the pelvic viscera. The right tube charged with pus and the right ovary with a parovarian cyst as large as a cricket-ball were removed, the pedicle ligated with silk and dropped. Free irrigation was employed, the wound was closed with silk, and no drainage used.

PYOSALPINX.

(Reported for J. S. K. MORTON, M.D.) Mrs. T., white, æt. 36, complains of pain in right iliac region and extending down the right thigh, increased by locomotion. General condition bad; dissipated.

Examination.—Uterus in good position; to right of cervix is a firm, pedunculated tumor, filling up the pelvic cavity on that side, firm, nodular, and adherent.

Operation, January 25, 1887.—A two-inch incision was made two inches above the pubis; two fingers were introduced, and everything found practically normal except the right ovary and Fallopian tube. The ovary was as large as a pigeon's egg, and firmly bound down in every direction, and apparently more cystic than normal. The tube was likewise bound down, extremely thickened, and contained fluid. After carefully examining all around the adherent mass, a point more friable than the other adhesions was found and torn up. This done, the enucleation became a matter of patience and application of judicious force until the whole mass had been shelled from its inflammatory bed. When thus freed, the ovary and tube were brought out of the wound and the pedicle doubly ligated as near the uterine cornu as possible, and divided with scissors. Previ-

ous to dropping back the pedicle, the remainder of the Fallopian canal in it was thoroughly swabbed out with strong bichloride solution, eighteen grains to the ounce. Scarcely any oozing took place, and after thoroughly irrigating with water that had been boiled and carefully sponging, the peritoneal cavity was found to be perfectly dry. The incision was closed without a drain. Time, fifty-five minutes.

Progress.—Occasional slight nausea was the only untoward symptom following the operation; evening temperature, 99.4°; next morning, 100°. After that it did not rise until the evening of the fourth day, when it mounted to 102°, and she complained of considerable abdominal pain, with much vomiting. This set-back had come on as a result of getting up and walking about the room some hours before, during the absence of her nurse. The fifth day found her with marked symptoms of peritonitis, vomiting, and towards evening shock and evidently dying. Death occurred during the night.

Post-Mortem.—Parietal wound in good condition; about half a pint of cloudy serous fluid in the peritoneal cavity; abdominal contents matted everywhere with very recent lymph; no blood or clots; kidneys somewhat granular, but not nearly so much so as might have been expected from her dissipated manner of living; other organs practically normal.

(To be continued.)

PHILADELPHIA ACADEMY OF SURGERY.

A STATED meeting of the Philadelphia Academy of Surgery was held May 2, 1887. In the absence of the President, Dr. S. W. Gross occupied the chair.

Dr. F. H. Gross exhibited a

TUMOR OF THE ABDOMINAL WALLS,

and made the following remarks:

"I have here a tumor which I removed at the German Hospital three days ago. It was more interesting before removal than it is now, on account of its situation. The patient was a woman, aged 46 years, married, who had twelve children, eight of whom are living; the other four died in infancy or early childhood. The patient was a large, healthy-looking German, weighing one hundred and forty-five pounds. She first noticed this growth in the abdominal walls about twenty years ago, at which time it was no larger than a pea. It was situated about two and one-half inches above the umbilicus, and a little to the right of that point. The tumor grew very slowly, and two years ago had only reached the size of a walnut. It remained of this size until three months ago, when it rapidly increased to its present dimensions, about those of a small fist. Within the past two months there appeared shooting and darting pains extending around the abdomen; previous to this there was no pain connected with the tumor.

"The deep attachments of the growth were very deceptive. Those who examined it believed that it was attached to the peritoneum, and at the operation we were prepared to remove it, even if it extended so deep. At the operation, however, it was found external to the sheath of the rectus muscle. It appears to be a fibrous growth which is undergoing myxomatous degeneration."

Dr. F. H. Gross also exhibited the growths from a case of

MULTIPLE LYMPHOMATA OF THE AXILLA.

"The patient from whom these growths were removed was aged 43 years, the wife of a clergyman in the interior of the State. She is the mother of eight children, all living. Her parents also are living. She first noticed a swelling in the right axilla about the middle of December, 1886, seventeen months ago. At this time there appeared to be two growths the size of a walnut. They gradually increased in size until they gave rise to considerable inconvenience on account of their bulk. There was no pain. She desired to have them removed. I expressed the opinion that they were lymphomata. There were also two growths above the clavicle not larger than hazel-nuts.

"I made a straight incision in the axilla on the thoracic side and removed two dozen of these glands, the largest being the size of a goose's egg. It is remarkable that the glands above the clavicle, which I had expected to remove by a later operation, have almost entirely disappeared. The operation was done eleven days ago, and the glands are now not larger than a small bean. There is no taint in the family. I think that the origin of the tumors must have been due to indifferent causes.

"I had a similar case a year or two ago, in which the patient subsequently died of phthisis. The wound did not heal, and there was a continual discharge from it. In this case there is no tubercle."

Dr. S. W. Gross: "My own experience is that, independently of Hodgkin's disease, mutliple lymphomata such as we meet with in the neck, and which are so easily enucleated, are exceedingly uncommon in the axilla. The majority of tumors of the axilla connected with the lymphatic glands that I have operated on have been tubercular glands undergoing cheesy degeneration and lympho-sarcoma. I have yet to see a case like this, and I have seen a good many cases of tumor of the axilla. At my first clinic in January this year I had a case of lympho-sarcoma of the axilla, and I remarked to the class that lymphoma, of which I had shown a good many cases situated in the neck, I had never seen in the axilla. Drs. Senn and Cheadle, who were present, agreed with me."

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

A STATED meeting was held April 25, 1887, the President, LAURENCE JOHNSON, M.D., in the chair.

EXTERNAL URETHROTOMY—A PLEA FOR ITS PERFORMANCE IN MINOR TRAUMATISMS OF THE URETHRA.

Dr. L. BOLTON BANGS read a paper with this title. The first proposition offered for discussion was that the operation should be resorted to earlier than it usually is. He had become convinced from the observation of cases in the hospital that their condition was rendered infinitely worse by the passage of time, when the deeper urethra became fixed in a semi-cartilaginous mass which a subsequent operation could never properly overcome. The early operation should be performed for acute traumatism: after falls astride wagon-wheels and other objects; after kicks and blows on the perineum; after penetration of the perineum and wound of the urethra by sticks, etc. The urethra being damaged to a greater or less extent after these injuries, the process of repair sets in at once, but to be interrupted or interfered with periodically by the necessity for the urethra to perform its function. The bladder expels its contents sometimes with great violence, and thus irritation is set up, which finally results in inflammation and the formation of cicatricial tissue in and around the urethra.

Not only should external urethrotomy be resorted to at once after known injury of the urethra and extravasation of urine or inability to pass the catheter, but there are also cases in which the only evidence of injury of the urethra might consist in the escape of a few drops of blood from the meatus. An instrument of large or fair size may pass easily into the bladder, yet experience shows that subsequent trouble will be avoided only by this operation. The slight injury to the urethra might result in a follicular inflammation; a little pus-cavity forms; the urine passing over the urethra makes this condition worse; and there may finally develop extravasation and cicatricial tissue. The object of external urethrotomy is to obtain rest for the urethra and prevent liability to extravasation and its subsequent unfortunate results. The operation should be performed as early as possible, and the first physician who is called to the case, if possessed of a slight amount of manual skill, and having with him a guide and a scalpel, would be able to perform it without difficulty. The operation also should be resorted to when opening a perineal abscess in a patient with a stricture of large calibre, for it is not sufficient to evacuate the abscess and perform catheterism; the urethra should be divided in order to prevent the development of more deplorable results.

The second proposition upon which the author invited discussion was that external urethrotomy is comparatively devoid of danger, although not absolutely so, as this could not be said of any operation on the human body. Its dangers, as well as its difficulties, had been overstated. On looking over hospital records he had found that deaths following the operation had occurred in patients with preceding kidney-disease, probably arising from the urethral disorder or other devitalizing disease, and were not due to the external urethrotomy.

DISCUSSION.

Dr. F. N. OTIS fully coincided with Dr. Bangs with regard to the probable benefit to be obtained by early operation in cases of external injury of the urethra. Our most difficult and refractory cases of urethral trouble are those of traumatic origin. The resultant stricture is often so extensive that it cannot be fully divided, and will return. To illustrate the importance of an early operation, he referred to a case in an English hospital, that of a patient who had a perineal swelling, and the surgeon, taking it for a difficulty outside the urethra, independent of extravasation, applied a poultice to prepare the abscess for the knife. But by the next day extravasation had taken place, and the patient died. He thought the operation was a safe one.

Dr. E. L. KEYES could not take exception to any of the statements made by the author of the paper. He thought the operation of external urethrotomy should be performed early after injuries of the urethra, and also in cases of stricture of the deep portion of the urethra calling for either divulsion or division. The operation he regarded as simple, although when a guide could not be introduced it was attended with some difficulty.

Dr. Keyes further said that the former custom of dilating deep urethral strictures is falling gradually into disrepute. If the tissues were not tight, if the stricture was not resisting, the patient might get along without suffering special inconvenience by passing a moderate sound; but when the stricture was tight, the patient was liable at any time, by passing sounds of increasing size, to get up a urethral chill, an inflamed testicle, and all sorts of complications. Such accidents were not likely to occur if the deep urethra were divided by external urethrotomy. The operation of divulsion in such cases had pretty much fallen into disuse, and internal urethrotomy in his experience was disastrous. If he himself had a deep urethral stricture, he would vastly prefer to have it cut externally to having it divulsed or cut internally to a sufficient extent.

Dr. CHARLES MCBURNEY was glad to hear ideas which were gradually and surely gaining the approval of surgeons expressed so clearly by Dr. Bangs. He thought external

urethrotomy for traumatism of any moment was a highly proper procedure. It was proper because it was the only means of avoiding dangers which were immediate and also remote. Regarding the operation itself, he thought something might be said which would tend to lessen the fears of the patient and those of physicians not accustomed to perform it regarding its severity. The object of the operation was only to provide for perfect drainage of the urine and products of inflammation. It was not done for the purpose of dividing the stricture. There might be a stricture three or four inches in length in the deep urethra, but it was not necessary to try to divide it when performing external urethrotomy. The latter operation was performed for the purpose of drainage, and a small opening was sufficient. The stricture could be divided by internal urethrotomy. External urethrotomy need not involve a single important structure; hemorrhage could be controlled without any danger. If these facts were borne in mind, he thought the operation would lose some of its terrors.

He (Dr. McBurney) thought there were some cases of slight traumatism of the urethra which did not call for external urethrotomy, but they were very difficult to define. He might say, however, that in a case of injury to the perineum in which there was no evidence of laceration of the urethra other than perhaps the escape of a few drops of blood, in which there was no tumefaction of the urethra, in which it was perfectly easy to pass a large instrument, and in which there were no crevices to engage a small instrument, in such a case he would not do external urethrotomy. But he would wash out the bladder after each evacuation.

Dr. BANGS, in closing the discussion, said he was glad to see such uniformity of opinion with regard to the propriety of external urethrotomy in the class of cases under discussion. In further illustration of its importance, he said a man had recently come under his observation who fell upon the table five months ago, striking the perineum, in consequence of which there resulted slight tumefaction and scalding on urination. No blood escaped from the meatus. He was catheterized by the attending physician, and then passed from under his notice. To-day it was difficult to pass a filiform bougie. External urethrotomy would now be performed.

BALDNESS: WHAT CAN WE DO FOR IT?

was the title of a paper read by Dr. G. T. JACKSON. Alopecia prematura alone received attention. Premature baldness, it might be said in a general way, was that occurring before the forty-fifth year, although the period was arbitrary. Subdivisions were made into idiopathic and symptomatic. The idiopathic form began unannounced by any antecedent disease. Many families had it for generations. The different causes claimed for it were named, but the author gave particular attention to the influence exerted by want of proper care of the hair, as this was under the control of the patient and was a part of prophylaxis and treatment. He was inclined to think that due attention to proper care of the scalp and general hygiene of the body were more reliable than any so-called remedies. Women gave more care to their scalps, and not only was baldness less common among them than among men, but the results of treatment were better. In families in which baldness was hereditary, prophylaxis should commence at birth with proper cleansing of the scalp, the use of soap and water, the brush and comb, and the avoidance of all things which might injure the scalp. The shampoo need not be repeated more than once or twice a week, and, after drying, some unguent, as sweet or olive oil, should be applied.

What not to do was nearly as important as what to do. Pomades, as they were liable to become rancid and injure the scalp, should not be used. Wetting, twisting, pulling, scorching the hair, as fashion demanded, were injurious. Close-fitting hats and caps should not be worn. Anxiety of mind should be combated by cultivating a cheerful disposition.

Baldness due to dandruff, syphilis, typhoid fever, etc., next received attention. In addition to treatment appropriate to the special disease, he again urged the importance of systematic care of the scalp and hair.

DISCUSSION.

Dr. FOX said that when baldness was evidently due to some seborrhœal condition, to want of cleanliness of the scalp, the shampoo would do a great deal of good. When due to shock or other nervous state, we should have to rely upon hygiene. Then there was a large class of cases which dermatologists had tried to explain in different ways, but he thought their explanations were pretty much on an equality: they did not explain it. He, too, once thought that baldness was due to disappearance of the subcutaneous tissue and tightness of the scalp; but on examining patients he found in many of them the scalp quite movable. Nor did he believe it was due to high hats or compression of the blood-vessels by the head-apparel. In brief, he did not believe baldness in many cases could be accounted for any more than an explanation could be given for the musical talent in some and for the mechanical in others. Patients should reconcile themselves to the homely statement that "what cannot be cured must be endured."

Dr. CARPENTER inquired whether the custom among some physicians of cutting the hair short during or just after an attack of

typhoid fever had any beneficial effect upon the hair.

The PRESIDENT was a firm believer in high stiff hats as a cause of premature baldness, and as a basis for his belief said that baldness was much more common now than twenty years ago.

Dr. FOX doubted whether baldness was more prevalent now than twenty years ago, and Dr. JACKSON said that high hats had been worn by young people in England almost for centuries, yet baldness was not apparently on the increase. He and Dr. Fox both thought no benefit was derived from cutting the hair in typhoid fever.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held April 21, 1887, the President, A. JACOBI, M.D., in the chair.

ON THE PRACTICAL VALUE OF OUR PRESENT METHODS OF TREATING THE UPPER AIR-PASSAGES.

The subject was one referred for discussion to the main body by the Section in Laryngology, of which Dr. B. Robinson was chairman. In the absence of Dr. Robinson, the discussion was opened by a paper by Dr. Francke H. Bosworth.

Dr. BOSWORTH said it is now thirty-three years since Garcia demonstrated the feasibility of examining the interior of the larynx during life, and Czermak, availing himself of Garcia's teachings, presented to the medical profession a new method of treating disease and inaugurated a new specialty. He thought it was highly proper to stop for an instant and take an account of what progress had been made in this specialty. The early days of this specialty were days of instrument-invention, and so rapidly did the number of appliances and ingenious devices for treating diseases accumulate that the impression grew that we treated disease by machinery. Nor was this impression ill founded. Dr. Bosworth thought that when we knew little about the treatment of these diseases our machinery was very extensive. As our knowledge increased the machinery disappeared, until now all of it might be carried in a hand-satchel.

He then spoke of special methods of topical applications in the treatment of the larynx, lower pharynx, vault of the pharynx, and nasal passages. Although speaking of the treatment of these separately, his conclusions with regard to each were the same: namely, that so-called chronic catarrhal inflammation of the larynx, lower pharynx, and vault of the pharynx was due to disease of the nasal passages; that chronic nasal catarrh was due to nasal obstruction, and the only radical means of relief consisted in removing such obstruction. This was to be accomplished by the use of the knife, saw, snare, or cautery. It was true the spray and the douche had their uses, but in no case had they ever cured chronic laryngitis or so-called chronic pharyngeal catarrh. Their action was only palliative and cleansing. No local applications directly to these parts ever cured such inflammation. It was not claimed for them by anybody that they would cure tumors, syphilis, tuberculosis, or paralysis. He had before said that the lower pharynx was in no sense a part of the air-tract. As he had but recently written on the subject of the surgical treatment of obstructions of the nose, he would now devote most of his remarks to the action of the cautery.

He claimed that the cautery destroyed only the superficial layer of the lining membrane of the obstructed nasal cavity, and that therefore its action in overcoming obstruction was not due to its destruction of tissue, but to its coagulation of the superficial structures, their contraction upon the dilated blood-vessels and hyperæmic tissues, in the manner that a film of collodion acts. This being the case, he claimed that the galvano-cautery was an expensive, especially a cumbersome, apparatus; one which could not be used with delicacy and exactitude; which was not without danger; and consequently its use should be dispensed with and chromic acid substituted. The latter possessed every advantage of the galvano-cautery and platinum wire, and had not their disadvantages.

With regard to apparatus for making spray, he showed a hand-atomizer with a single rubber bulb, which he claimed was as effective as the most costly air-pump and receiver; and, for examinations, a head-mirror two and a half inches in diameter was as good as the more costly.

Dr. A. H. SMITH continued the discussion with a brief paper, in which he said there was growing scepticism as to our ability to cure all cases of so-called catarrh of the upper air-passages. Then, referring to the benefit to be derived in the treatment of chronic or subacute affections of the lining membranes of those passages by the employment of anodynes and disinfectants, especially by weak solutions of carbolic acid, he pointed out the limitations of such benefits. To show that surgical methods were not indicated in all cases or capable alone of curing diseases of the upper air-passages, he quoted the statistics of certain institutions, going to show that out of thirteen hundred and fifty-one cases only twenty-seven per cent. were considered as calling for an operation. It followed that in over seventy per cent. of the cases other treatment than surgical was required. Any person familiar with the subject must have seen patients with chronic nasal catarrh returning month after month, and year after year, to dispensaries and institutions, having

nowhere been able to find complete and radical relief. This was not true alone of the specialty of laryngology and rhinology. The same thing was seen at clinics for diseases of women,—patients returning for months with chronic uterine catarrh, etc. He believed that a change of structure took place; that the vital conditions were altered, and they could not be restored by any measures which we had yet adopted or perhaps would ever discover. In other words, there were certain difficulties and limitations inherent in the case not chargeable to faulty methods of treatment or to want of skill. He had long since ceased to expect, as he had ceased to promise, complete and permanent cures.

Dr. WILLIAM H. THOMSON discussed the subject from the stand-point of the general practitioner. In his opinion, the treatment of chronic diseases of the upper air-passages should be directed chiefly by two principles: first, by taking cognizance of cutaneous nerve associations in the causation and perpetuation of inflammation of the mucous membranes; and, secondly, local disinfection.

Organs which were in symmetrical pairs, such as the hands, feet, ears, and eyes, were so closely associated in vaso-motor relations that the same effect, as far as their circulation was concerned, was produced in both by an impression made on only one member of the pair. Second, there was a close relation between the sensory nerves of the skin and the vaso-motor apparatus of the viscera immediately beneath. Third, there were special relations between the vaso-motor functions of one part of the body and the nerves of sensation in a particular distant part of the body. Wet feet, for instance, might check menstrual flow. This relation also existed between the feet and the larynx, and between the nerves at the nape of the neck and the circulation in the nose.

Unfortunately, we have few vaso-motor tonics. In colds it would be of benefit to apply cold water to the nape of the neck on rising, keeping the hair dry, and to apply cold salt water to the throat. The neck and shoulders should be washed in cold water, dried, and then rubbed with sweet oil. Draughts of air were more harmful than a walk out in the cold air. Exposure of a portion of the surface of the body, especially at night, should be avoided. As to special covering, a thin woollen undergarment should be worn, and over that a perforated buckskin shirt. Buckskin drawers, perforated, might also be worn. He knew of no special clothing so beneficial as this. Chest-protectors, etc., which covered only a part of the surface, were worse than useless.

Speaking of disinfectants and their application in the treatment of diseases of the upper air-passages, he said it was hard to resist the belief, from the evidence already given, that the product of inflammation, as such, was always the result of infection. As soon as a particular tissue began to lose its normal amount of vitality, the enemy (micrococci) found it out and began its work. A practical deduction was that, as the onset of disease could be prevented only by excluding germs, so all chronic mucous inflammations could be got rid of only by driving out such germs after they had obtained access to the tissues. Two methods were to be adopted: first, strengthen the vitality of the parts; second, apply disinfectants directly to the affected parts. The greatest advance, he thought, would be made in the discovery of disinfectants and how best to use them.

Dr. H. H. CURTIS had deduced the following conclusions from the observation of a thousand cases of disease of the upper air-passages. In all cases of nasal stenosis from deflection of the nasal septum, etc., there was subacute or chronic inflammation of the lining membrane of those passages, this inflammation extending also down to the pharynx, and here giving rise to glandular hypertrophy. This affection of the posterior wall in the faucial cavity was due to mouth-breathing, and disappeared on opening up the nasal cavities. Any treatment directed to this glandular hypertrophy without treatment of the nasal passages was without success. Disease of the ethmoid cells was generally due to hypertrophy of the middle turbinated body and consequent occlusion and prevention of exit of the ethmoidal secretions. The treatment consisted in the application of chromic acid to the thickened middle turbinated body in order to reduce the obstruction and allow free access of air and outlet for the secretions. He employed this escharotic to the exclusion of others, and he would be unwilling to exchange it for all the sponges, sprays, etc. Its use was followed not only by clearing up of the nasal passages, but also, in consequence of this, by disappearance of the granulations referred to, of laryngitis, pharyngitis, huskiness of the voice. The chromic acid should be used carefully, but he had not seen any bad results from it. The sooner the profession ceased to apply strong astringent solutions and nitrate of silver to the upper air-passages, and gave proper attention to restoring the respiratory functions of the nasal passages, the sooner would laryngology be placed on a higher plane and relief given to countless thousands suffering from so-called post-nasal catarrh.

Dr. W. C. JARVIS thought the spray was undoubtedly of great utility when properly employed. Pound-pressure, he said, meant nothing; but the dimensions of the pneumatic tube and the pound-pressure being given, we had everything. Cocaine would act better, more efficiently, and a less amount would be required when used by the spray than by any other method. Another remedy

to be used from the spray was rhigolene, and it was often to be preferred to cocaine, especially where the latter failed to produce anæsthesia. He could not do without the spray for cleansing purposes. The coarse spray possessed nearly all the advantages of the douche. Powders were best applied fine by the compressed-air spray. Iodoform was best tolerated. Chromic acid and nitric acid had their uses. But chromic acid was a treacherous drug. Doubtless it was of benefit in some cases; but it should not be used for the relief of hypertrophy of the lining membrane. It was a specific in its action on papillomatous tissue. Regarding the comparative value of surgical with other methods, he thought the decision had been pretty well settled in favor of the former. Where weeks and months were required to cure by local applications, relief and cure came from a single sitting when the snare, saw, or cautery was used. The apparently increased discharge in nasal catarrh was due to accumulation by obstruction, not to hyper-secretion. He spoke of the value of applications of vaseline or other unguents and agents for cleansing and protective purposes.

AUTOGRAPHS OF DISTINGUISHED PHYSICIANS.

The PRESIDENT, in accepting on behalf of the Academy autograph articles of three distinguished physicians, presented by members, expressed the hope that other members would follow their example. The autographs of distinguished members of the profession of to-day would be just as valuable a hundred years from now as were those now of distinguished physicians of the last century.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held April 27, 1887, the President, T. MITCHELL PRUDDEN, M.D., in the chair.

ANTHRACOSIS OF THE LUNGS.

Dr. PETERSON presented the lungs of a man, aged 67 years, who had died suddenly in the street. The post-mortem examination showed fatty degeneration of the heart, to which the sudden death was attributed. The liver was fatty. Both kidneys showed signs of senile atrophy. The interest in the case related to the lungs, which were almost black in color, being stained with carbon. The cut surface stained the fingers black when passed over it. In places the lung was composed almost entirely of fibrous tissue and carbonaceous matter, resembling to the touch a cirrhotic liver. In one there was an abscess the size of a hazel-nut. The man had worked during thirty-one years in the cleaning department of a stove-works, in which he was compelled to inhale an atmosphere so filled with carbonaceous matter and fine particles of sand as to render vision obscure. The large force of men employed in the same room all had some pulmonary difficulty.

RENAL CALCULUS.

Dr. IRA VAN GIESON presented a large white kidney, containing in the sinus a cylindrical calculus five centimetres in length, one cubic millimetre in diameter, sending off two prolongations about one cubic millimetre in length into the calices. There were connective-tissue indentations on the surface of the kidney corresponding to the branches in the calices.

PHOSPHORUS-POISONING.

Dr. VAN GIESON also presented specimens from the body of a man who died four days after drinking water containing phosphorus. At the autopsy there were observed fatty degeneration of the heart and liver; parenchymatous degeneration of the kidneys; swollen and granular changes in the cells and follicles of the stomach, Brunner's glands, and pancreas. The lesions were those usually seen in phosphorus-poisoning, but two points of interest in the case were, first, tubercles found in only one bronchial gland, and not elsewhere in the body, thus bringing us face to face with the first stage of tuberculosis following phosphorus-poisoning; second, the presence of minute hemorrhages in the lymph-channels of some of the cervical glands.

Dr. CARPENTER asked Dr. Van Gieson whether he based his diagnosis of tubercle on the presence of the bacillus tuberculosis. Dr. Van Gieson replied that he had not examined for the bacillus. Dr. Carpenter said he thought the ground assumed by some, that a diagnosis of tubercular tissue should never be made except on the basis of the presence of the tubercle-bacillus, was unjustifiable; that in many cases the anatomical elements alone were sufficient basis for the diagnosis, although the bacillus should be looked for when practicable; but the absence of this was not conclusive evidence that the tissue was not tubercular.

DEATH FROM DIPHTHERIA IN A CASE IN WHICH INTUBATION WAS PERFORMED.

Dr. BROTHERS presented a part of the respiratory organs of a child, aged 19 months, which had, when he first saw it, croupy symptoms, evidence of limited pneumonia, and was becoming cyanotic. O'Dwyre's tube was inserted into the larynx through the glottis, relieving dyspnœa, but the patient died two days later. The autopsy showed no false membrane on the tonsils or pharynx, but there was a false membrane covering the larynx, trachea, and larger bronchi which could not be removed. There was a spot of pneumonic consolidation in both lungs. The case did not speak against the value of intubation of the larynx.

HYPERTROPHY OF THE LEFT VENTRICLE, CIRRHOSIS OF THE LIVER, CHRONIC NEPHRITIS, ETC.

Dr. FRANK FERGUSON presented fresh specimens removed from the body of a man, aged 48 years, who had been a confirmed drinker for eighteen years. His illness dated back three years, but during the last three weeks of life his legs became greatly swollen. There was enlargement of the abdomen and of the scrotum to the size of an adult's head. He had not passed urine for three days prior to admission to the hospital, and the bowels had not moved for five days. He was semicomatose, in which state he died. There was found advanced chronic diffuse nephritis, intense hyperæmia of the kidneys, also of the mucous membrane of the stomach, with thickening of the lining membrane of this organ. There was great hypertrophy of the left ventricle of the heart; the valves were normal; the muscular tissue of the heart was anæmic. The liver was very much advanced in cirrhosis, being composed almost completely of fibrous tissue. There was a great quantity of fat in the scrotum, on the right side there being two large lipomata. The pancreas was unusually firm. The suprarenal capsules had undergone extensive fatty degeneration.

REVIEWS AND BOOK NOTICES.

THE SCIENCE AND ART OF OBSTETRICS. By THEOPHILUS PARVIN, M.D., LL.D., etc. Illustrated with Two Hundred and Fourteen Wood-Cuts and a Colored Plate. Philadelphia, Lea Brothers & Co., 1886. Pp. 701.

This new text-book aims to represent in brief the present state of the science and art of the science for which the author believes "maieutics" (*μαιευο* and *μαιευτής*) a more appropriate title than the common one. The work consists of a short introductory and five parts,—viz., Anatomy and Physiology of the Female Sexual Organs, Pregnancy, Labor, the Puerperal State, and Obstetric Operations. The illustrations are numerous, the descriptions clear, the language concise, and the discussion of pathological questions temperate and just. The directions regarding treatment appear sound, but possibly might be made more explicit and positive by one favored with thirty-four years' experience in general practice and a veteran medical teacher. The chapter on Deformities (improperly called Anomalies) of the Pelvis is contributed by Dr. Henry Morris, Demonstrator of Obstetrics in the Jefferson Medical College. As this is not a System of Obstetrics, the interpolation of the work of another interrupts the continuity of the book and implies an incapacity in the author which does not exist. This is not a criticism upon Dr. Morris's contribution, which appears well done, but a plea for the organic unity of a text-book bearing the name of a well-known teacher upon its title-page. As Dr. Parvin is nothing if not classical, we feel that we must notice the use of the word "pubis" in place of "os pubis," while the comparison of the multitude of spermatozoa which, in conception, surround the ovum to the crowd of Penelope's suitors is at least in questionable taste. However, these are trifling criticisms. The author has succeeded in presenting in convenient form for reference the present aspect of obstetrical art, and the work will not only be eagerly sought for by his students, but also will prove acceptable to others who know his studious nature and appreciate his scholarly writings.

A HAND-BOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy, and Minute Directions for Prescription-Writing. By SAMUEL O. L. POTTER, M.A., M.D. Philadelphia, P. Blakiston & Co., 1887.

This is the best hand-book on the subject of Materia Medica and Therapeutics for an American medical student with which we are acquainted. In addition to these it has chapters on Pharmacy and Prescription-Writing, and a comprehensive appendix, which contains, among other interesting subjects, Obstetrical Memoranda, the Treatment of Poisoning, and Clinical Examination of the Urine. We think that the departure from the Pharmacopœia in substituting the word "official" for the proper title "officinal," as applied to approved drugs, is unwarranted. A process might be termed official with perfect propriety, but how can a drug become official? On the contrary, if approved by the Committee of Revision, it can be ordered to be kept in the shops for the use of the profession, and hence becomes properly officinal.

THE PRINCIPLES AND PRACTICE OF OPERATIVE SURGERY. By STEPHEN SMITH, A.M., M.D. A New and Thoroughly Revised Edition. Illustrated with One Thousand and Five Wood-Cuts. Philadelphia, Lea Brothers & Co., 1887.

Since the first edition of this work appeared in 1879, eight large issues were made without any change being made in the text, although each was designated as an edition. The advances in operative surgery since the work was written necessitated almost complete rewriting of the work from the stand-point of aseptic surgery. A valuable introductory chapter on the principles discusses very appropriately the civil obligations of the surgeon, and due emphasis is laid upon the fact that antisepsis imposes new obligations. "It is of

the utmost concern to every surgeon to become thoroughly familiar with the principles and practice of antiseptic surgery." The book is freely illustrated.

NEW REMEDIES AND CLINICAL NOTES.

Embolic Obstruction of the Superior Mesenteric Artery.—An interesting case of this is reported by M. Laveran in the *Archives de Médecine et de Pharmacie Militaires* for March. The patient was first thought to have gastritis; then (on account of the severe abdominal pain and vomiting of matters containing blood) acute gastritis due to poisoning or strangulation of the bowel. Cancer came in for a share of the credit, and it was not until the autopsy had been made that the real cause of the trouble was determined.

The patient, æt. 41, entered the hospital on the 29th of October with scarlet fever, and was sent away cured on the 19th of November. The fever had been severe, but had completely subsided by the 4th of November. There had been angina, and the eruption was thoroughly characteristic. On the 14th of January the patient returned to the hospital with excruciating abdominal pains and uncontrollable vomiting. This time there was no fever, the pulse was small and frequent, and there was intense anxiety portrayed in the countenance. The abdomen was excessively painful upon pressure, especially in the epigastric region; slightly tense, but not swollen; constipation for three days; death on the 16th of January. The autopsy revealed a vegetative inflammation of the ascending aorta, the probable source of the embolus, and a sequel of the scarlet fever.

Eucalyptol for Phthisis.—M. Ball, in a communication to the French Academy of Medicine, stated that he had been testing at the Lænnec Hospital Dr. Roussel's method of treating pulmonary phthisis by eucalyptol. While his experience was not yet sufficiently extensive to warrant any positive conclusions, it had nevertheless presented him with the most gratifying results. Out of twenty-one cases, ten had been able to leave the hospital and to return to their usual occupations, six had died, and five were still within the wards. Among the latter, one case had ceased to show any bacilli in the matter expectorated six months after the beginning of the treatment, though before that time they were found there in great abundance. Cessation of the night-sweats and of the diarrhœa, and diminution of the expectoration and of the fever, were some of the immediate results of the use of eucalyptol. In one case only did the remedy have to be stopped during the course of the treatment, and this was on account of some gastric disturbance. Dr. Roussel used for the hypodermic injection one gramme of a fluid consisting of one part of eucalyptol to four parts of pure olive oil. The injections are made in the region of the hip.

Trachoma of the Vulva.—Under the term "trachoma pudendi," Dr. Tarnowski, of Russia, classifies an affection of the vulva which has for its special characteristics eruption and itching. He sees in it a perfect analogy with the classical trachoma, or chronic granular conjunctivitis. It frequently follows gonorrhœa, a fact which harmonizes well with the well-known notion of the gonorrhœal origin of the ocular trachoma. The skin is roughened, which, according to the microscope, is covered with epithelial papillomata, with the horny layer prominently developed and containing a mass of micro-organisms seated within the epithelium and adenoid tissue. These organisms penetrate deeply into the papillomatous tissue, and are surrounded by a peculiar membrane. The itching is particularly characteristic of this affection, and, instead of scratching, the patients show a tendency to press the parts by pressing the thighs together. The application of cold will cause the itching to cease. Scarification and the use of caustics are the most successful in the treatment of this annoying eruption.

Malarial Orchitis.—The report of a case of orchitis due to marsh-poison appears in the *Archives de Médecine et de Pharmacie Militaires* for March. The patient, æt. about 23, a soldier of Tunis, suffered an attack of malarial fever two years after the first malarial seizure. On the second day of the fever, which was of the quotidian type, a rapid inflammation began in the right testicle. Under the steady employment of quinine the fever and orchitis had subsided almost entirely by the fifth day, and the patient was well on his way to convalescence. On the ninth day the fever, as well as the orchitis, suddenly broke out again, but this time the latter was on the left side. On the thirty-third day the patient left the hospital cured, with his testicles half their original size and still undergoing progressive atrophy.

The Causative Element in Uterine Fibromata.—Again the ubiquitous microbe has come to play, in an entirely new *rôle*. He has been sought for in almost every nook and cranny of the human frame, and usually some one has been able to find him there, but this time he is met with as the happy occupant and *causa prima* of all uterine fibroids and ovarian cysts, according to a curious and unexpected communication sent to the Société de Biologie by Drs. V. Gallippe and L. Landouzy. They believe that they

have discovered a parasite which by its irritant action upon the tissue-elements causes the growth of these tumors. The experiments of these gentlemen were not sufficiently guarded against every possible source of error, nor were they performed as crucial tests sufficiently upon normal tissues and other tumors in a way to force us to adopt their conclusions as incontrovertible.

Pure Distilled Water for Tests and Hypodermic Solutions.—M. Lacour recommends passing a current of steam through the worm of the distilling apparatus for about ten minutes before beginning the distillation of water to be used afterwards in delicate tests. In a number of trials without this precaution he invariably found traces of organic matter in the distilled water. The worm of the still when not in use offers most favorable conditions for the development of colonies of many forms of low organized life. This simple precaution has been effectual in reducing to a minimum the organic matter which sometimes finds its way into the distilled water, and which has caused considerable embarrassment sometimes in making exact tests.

Corneal Ulcers.—In corneal ulceration, according to Dr. A. E. Prince, of Jacksonville, Illinois, the questions to-day are not whether it is phagedenic, crescentic, rodent, or asthenic, or whether the abscess be hypopyon or not, but we ask, Is it septic? Where is the source of the infection? What is the nature of the micro-organism? and What will destroy it? Empirical methods, which have been most successful, are now explained by their antiseptic effects. The actual cautery, recommended in 1873 by Martinachi, has steadily gained in favor. In 1885, Dr. A. Needen reported his first hundred cases treated by the galvano-cautery without a single failure to arrest the destruction and save the eye. A collyrium of atropine is useful in addition where peripheral perforation exists or is threatened (strength, gr. j–ij to the ounce, preferably in $\frac{1}{1000}$ bichloride solution), or Panas' solution (biniodide of mercury gr. $\frac{3}{4}$, alcohol f$\overline{3}$v, water two pints). At the commencement of the treatment the application of a small bag of flaxseed frequently dipped in very hot water is to be recommended for the relief of pain. An ointment of iodoform (two per cent. with vaseline) will be found very grateful, and when the acute stage is past, yellow oxide of mercury (one-half to two per cent.) ointment may be used at night. Constitutional and hygienic measures are also of primary importance. — *Peoria Medical Monthly.*

Tetanus cured by Hypodermic Injections of Cocaine. — The following case came under the observation of Dr. Manuel Lopez (*El Genio Médico-Quirúrgico*):

A laborer, æt. 50 years, of nervous temperament, complained of rheumatic pains and applied for relief. He was ordered to take citrate of magnesia and rubbing, to be followed by oil and a poultice of onions to induce sweating. After one week the condition of the man was very grave. He presented opisthotonos, general rigor, frequent spasmodic attacks, and most painful muscular contractions. His face was pale, and showed evidences of great suffering; his pulse weak, frequent, and irregular; respirations were anxious and short, owing to the inability to expand the chest; intellectual faculties preserved. This was regarded as an idiopathic case of tetanus, owing to the absence of any lesion to which the origin of the disease might be traced.

Chloral was administered, and anodynes applied to the vertebral column and limbs. On the third day he was compelled to suspend the administration of chloral, on account of the difficulty experienced in taking it. In place of this, three injections of five-per-cent. solutions of hydrochlorate of morphine and cocaine in equal parts were made in ten separate places on the body and limbs. Two hours after, the invalid was able to flex the limbs, turn in bed, and open the mouth; the painful contractions had ceased. Continued improvement enabled him, at the end of one week, to return to his occupation.—*La Crónica Médico-Quirúrgica.*

Uterine Hemorrhage.—Hydrastis Canadensis, given in the form of twenty minims of the fluid extract three or four times daily, has been found to check uterine hemorrhage effectively in cases of fibromyomata, subinvolution, and hemorrhagic endometritis, by R. W. Wilcox, M.D., who has also used it in climacteric hemorrhage with success. In many cases it appears to obviate the necessity of recourse to operation.—*New York Medical Journal.*

MISCELLANY.

International Congress.—The Committee on Arrangements announce reductions to members of the Congress and their families, as follows: Cunard Line, ten per cent. deduction; Red Star Line, for round trip (Antwerp and New York) tickets, $100; Inman Line, Liverpool, round trip, $100; Hamburg Line, $90; Royal Netherlands, Amsterdam, $85; North German Lloyd, $87.50. Important deductions are also made in the rates of Washington hotels.

Professor George E. Post, of the Syrian Protestant College, Beyrout, Syria, will attend the International Medical Congress.

Dr. William Goodell will remove on June 1 to No. 1418 Spruce Street.

INTERNATIONAL CONGRESS.—Jeffrey A. Marsten, R.A., Deputy Surgeon-General, has been appointed by the Horse Guards to represent the Medical Corps of the British Army at the International Medical Congress at Washington in September next.

The Admiralty has likewise commissioned Deputy Inspector-General Lloyd, R.N., to represent the Medical Department of the British Navy on the same occasion.

THE UNIVERSITY OF PENNSYLVANIA.—On the 2d inst., the Medical Department held its Annual Commencement, graduating one hundred doctors in medicine. Provost William Pepper, M.D., conferred the degrees. The Valedictory Address was delivered by Dr. William Goodell, Professor of Clinical Gynæcology. The annual dinner of the Alumni Association was given to one hundred and fifty graduates in the chapel of the University. Dr. R. A. Cleemann presided.

THE Fourth Annual Meeting of the American Climatological Association will be held in Baltimore, Tuesday and Wednesday, May 31 and June 1, 1887, in the hall of the new Physical Laboratory of Johns Hopkins University, Monument Street, near Eutaw.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 8, 1887, TO MAY 21, 1887.

LIEUTENANT-COLONEL C. T. ALEXANDER, SURGEON.—Granted leave of absence for four months, with permission to go beyond sea, to take effect May 23, 1887.

CAPTAIN P. F. HARVEY, ASSISTANT-SURGEON.—Granted leave of absence for four months, with permission to go beyond sea, to take effect June 10, 1887. S. O. 105, A. G. O., May 7, 1887.

MAJOR MORSE K. TAYLOR, SURGEON.—Retired from active service, May 14, 1887. S. O. 111, A. G. O., May 14, 1887.

R. H. WHITE.—Promoted to be Surgeon, with the rank of Major, to take effect from May 14, 1887.

CAPTAIN VICTOR BIART, ASSISTANT-SURGEON.—Ordered for examination by Army Retiring Board at Fort Leavenworth, Kansas. S. O. 107, A. G. O., May 10, 1887.

CAPTAIN F. W. ELBREY, ASSISTANT-SURGEON.—Ordered for examination by Army Retiring Board at Washington, D.C. S. O. 109, A. G. O., May 12, 1887.

CAPTAIN JOHN D. HALL, ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 74, Department of Colorado, May 11, 1887.

WILLIAM N. SUTER.—Appointed Assistant-Surgeon, U.S. Army, with the rank of First-Lieutenant, to rank as such from May 16, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDING MAY 21, 1887.

SURGEON C. U. GRAVATT.—Detached from the U.S.S. "Michigan."

PASSED ASSISTANT-SURGEON G. P. LUMSDEN.—Ordered to the U.S.S. "Michigan."

PASSED ASSISTANT-SURGEON RICHARD ASHBRIDGE.—Detached from the Naval Academy, and to the Practice-Ship "Constellation."

PASSED ASSISTANT-SURGEON THOMAS H. STREETS.—Promoted to Surgeon.

PASSED ASSISTANT-SURGEON L. W. CURTIS.—Ordered to the "Quinnebaug."

PASSED ASSISTANT-SURGEON J. W. BAKER.—Ordered to the Hospital, Chelsea, Massachusetts.

SURGEON A. F. PRICE.—Ordered to Board duty, Annapolis, Maryland.

SURGEON C. U. GRAVATT.—Detachment from the "Michigan" revoked.

PASSED ASSISTANT-SURGEON G. P. LUMSDEN.—Orders to the "Michigan" revoked.

SURGEON C. A. SIEGFRIED.—Ordered to the "Quinnebaug."

SURGEON R. C. PERSONS.—Detached from the "Saratoga."

SURGEON W. G. FARWELL.—Ordered to the "Saratoga."

SURGEON W. S. DIXON.—Ordered to special duty, Baltimore, Maryland.

SURGEON R. F. ROGERS.—Ordered to the Marine Rendezvous, New York.

PASSED ASSISTANT-SURGEON HOWARD WELLS.—Ordered to the "Jamestown."

SURGEON J. C. WISE.—Detached from the "Jamestown."

SURGEON H. P. HARVEY.—Ordered to the "Iroquois."

SURGEON J. R. WAGGENER.—Detached from the "Iroquois."

DR. S. STUART WHITE (of Frederick, Maryland).—Commissioned Assistant-Surgeon in the Navy, May 19.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE SIX WEEKS ENDING MAY 21, 1887.

GOLDSBOROUGH, C. B., SURGEON.—Leave of absence extended thirty days, on account of sickness, April 20, 1887.

DEVAN, S. C., PASSED ASSISTANT-SURGEON.—Granted leave of absence for thirty days, to take effect when relieved, April 12, 1887.

BRATTON, W. D., ASSISTANT-SURGEON.—To proceed to Port Townsend, Washington Territory, and assume temporary charge of the service, April 21, 1887.

FESSENDEN, C. S. D., SURGEON.—Detailed as chairman of Board for physical examination of cadets, Revenue Marine Service, May 13, 1887.

STONER, G. W., SURGEON.—To proceed to Delaware Breakwater as Inspector, and to New York and Philadelphia, to inspect unserviceable property, May 12, 1887.

IRWIN, FAIRFAX, PASSED ASSISTANT-SURGEON.—Detailed as recorder of Board for physical examination of cadets, Revenue Marine Service, May 13, 1887.

FATTIE, J. B., ASSISTANT-SURGEON.—Relieved from duty at Baltimore, Maryland; ordered to Marine Hospital, St. Louis, Missouri, May 13, 1887.

GOLDSBOROUGH, C. B., SURGEON.—Leave of absence extended to June 1, on account of sickness, May 18, 1887.

GUITÉRAS, JOHN, PASSED ASSISTANT-SURGEON.—Granted leave of absence for four days, May 21, 1887.

ARMSTRONG, S. T., PASSED ASSISTANT-SURGEON.—To remain in charge of service at Memphis, Tennessee, until further orders, May 21, 1887.

DEVAN, S. C., PASSED ASSISTANT-SURGEON.—Leave of absence extended thirty days, May 19, 1887.

HARRINGTON, P. M., ASSISTANT-SURGEON.—Ordered to U.S. Revenue Steamer "Rush," May 18, 1887.

NORMAN, SEATON, ASSISTANT-SURGEON.—To proceed to Marine Hospital, Baltimore, Maryland, for temporary duty, May 20, 1887.

HEATH, F. C., ASSISTANT-SURGEON.—Granted leave of absence for thirty days, May 18, 1887.

WOODWARD, R. M., ASSISTANT-SURGEON.—Appointed an Assistant-Surgeon May 20, 1887. Assigned to temporary duty at the Marine Hospital, Baltimore, Maryland, May 21, 1887.

PHILADELPHIA, JUNE 11, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON CASES ILLUSTRATING THE TREATMENT OF HEMORRHOIDS, FISSURE OF THE ANUS, AND CARCINOMA OF THE RECTUM.

BY A. G. GERSTER, M.D.,
Professor of Surgery in the New York Polyclinic.

GENTLEMEN,—This man, 46 years of age, was operated upon several years ago for external hemorrhoids. He now complains of difficulty in micturition and pain about the anus. On examination by palpation I find a fissure, situated posteriorly, extending up to the inner margin of the external sphincter. You may ask, How do I know that there is a fissure, since I have not seen it, and have no other proof of its existence than what is told me by my finger introduced into the rectum? A fissure, especially one which is not recent, can be diagnosticated by the touch quite as well as by visual examination. The margins of the fissure are indurated, and can be distinctly felt by the finger of one whose touch is tolerably fine.

I have asked the assistant whether the patient has been examined previously because he complains of trouble with micturition. A simple examination of the anus of a nervous patient is frequently sufficient to stop the flow of urine. You know that the connection between the nerves supplying the rectum, bladder, and adjacent organs is very intimate, and that reflex irritation of the bladder at once manifests itself in many patients of a nervous disposition by irritation of the rectum. Thus, for instance, certain persons suffering with prostatic disease will also suffer with spasm of the sphincter ani; and, *vice versa*, a patient who is very sensitive, and suffers with an internal hemorrhoid located near the prostate, will complain of difficulty in micturition. By examining such a patient, stretching the sphincter, as, for instance, by the introduction of the speculum into the rectum, you may unintentionally stop urination, and it may become necessary to withdraw such a patient's urine with the catheter for ten days or two weeks after your examination.

We notice by palpation over the pubic region that the bladder is empty, and this is now confirmed by the introduction of the catheter, which withdraws very little urine.

Regarding the care of catheters I may say a few words. It has become the fashion lately to treat everything to corrosive sublimate or carbolic acid without any discrimination. This has led to a good deal of mischief, not only in the peritoneal cavity, but also in the urethra. The urethra has a very sensitive mucous membrane, and in disinfecting your instruments before introducing them into the urethra you use sometimes as high as a five-per-cent. solution of carbolic acid, or one to one thousand of corrosive sublimate. Now, these solutions are very irritant. But what does irritation mean? Irritation is an expression which may mean ten different things. The word occurs on nearly every page of old surgical works, and on nearly every page it is intended to mean something else. In fact, you can imagine almost what you please when one speaks of irritation. It may mean acute pain from a mechanical cause; it may mean any degree of inflammation, as chronic inflammation, acute inflammation, phlegmonous inflammation. Let us, then, be more precise, and define what we mean when we speak of irritation. I mean by irritation in this case that when a solution like corrosive sublimate or carbolic acid is introduced into the urethra, coming in contact with the tender epithelium, it has the effect of causing corrosion. It coagulates and kills the most superficial layer of epithelium lining the urethra. This leaves an eschar; the cells become opaque, there remains a white blotch. This is cast off, leaving a raw surface. That raw surface must, of course, give rise to a secretion. Thus the result of the introduction of an instrument into a strong solution of corrosive sublimate or carbolic acid before passing it into the urethra is a urethritis with a discharge. Sometimes there is a good deal of discharge, especially in patients upon whom catheterism has to be regularly repeated. Suppose you have a healthy patient, except that he is suffering from a fissure in ano or hemorrhoids. You make an examination or operate, and following this the patient becomes unable to pass his urine. You must

now catheterize the patient, or instruct the nurse to do it, three, four, or six times a day. You are required to be very careful in all your steps; you are on the modern antiseptic racket, to use a not very elegant but an expressive phrase, so you keep your catheter in one of these strong antiseptic solutions, and when the time comes to withdraw the patient's urine you take your catheter out of that solution and introduce it into the patient's urethra and bladder. About the third day the man complains that catheterism is painful. Your manipulations had not been painful at all in the beginning, but now they have become very painful. At your next visit he shows you his penis, and says, "Doctor, I think I have the clap," and he is astonished, and wonders where he got it. He has simply an acute inflammation of the urethra, which you have caused by an unwise application of an advanced principle in modern antiseptic surgery. The best thing can be turned into mischief by lack of judgment in carrying it out. Therefore, whenever you introduce an instrument into the urethra which has been disinfected in a strong solution of any kind, you should always first free that instrument from the corrosive substance by flushing it with hot water. After that, if you introduce it into the bladder it will not harm the patient.

Before introducing the catheter we must have the patient assume the proper position. He should place the heels together, flex the legs and thighs, and spread the knees apart. That gives the greatest amount of relaxation. Now you grasp the glans penis and introduce the instrument into the meatus, using at no time during its passage any degree of force. Hold the handle of the instrument parallel with the longitudinal axis of the body, and push it very gently forward, pulling the penis over it, just as you would pull your glove over your index-finger. Continue this until the instrument ceases to go forward with very gentle pressure. Now if you place the index-finger of your right hand on the perineum you will feel the end of the instrument below the symphysis pubis. It is important to pass around this point without exerting any undue pressure. Having got thus far, you take hold of the handle of the instrument and gently depress it between the thighs of the patient, and it will slip into the bladder without any pressure on your part. Catheterism, if carried out properly, should never be followed by hemorrhage. One drop of blood making its appearance after you remove your sound or catheter indicates that you have not passed the instrument in a skilful manner,—that you have used too much force.

While the instrument is in the bladder you can very readily ascertain the size of the prostate gland. The catheter serves as a guide in ascertaining its exact location and size.

Now, in trying to ascertain the relations of the prostate in this case I have come upon something which none of us need to have suspected. It is something which explains his whole trouble,—the presence of the hemorrhoids, of the fissure, and also the difficulty with his bladder. There is just above the prostate and behind it, at a point which I can just reach with the tip of my index-finger, a pathological change encircling about two-thirds of the gut; a crescent-shaped indurated mass, constricting the rectum so that the end of my index-finger will only comfortably pass through it. It is situated more to the right side of the patient, is apparently attached to the prostate; the mucous membrane of the rectum is still movable over it. It is apparently a growth taking its origin from the mucous membrane, but not from its surface. It is not an epithelioma in the ordinary acceptation of the term. You will remember that there is epithelioma of the rectum just as there is epithelioma of the face or tongue,—that is, a cancerous new growth which takes its origin from the epithelial covering of the surface of the parts. This seems to me to be rather an adeno-carcinoma, if you wish to accept that term, the greatest part of which consists of epithelial elements. The disease probably started in one of the muciparous glands which occupy the interior of the mucous tissue of the rectum, and, therefore, has not ulcerated, as epithelioma is apt to do very soon, on account of the macerating effect of the moisture in the rectum in which it is constantly bathed. An epithelioma of the tongue is an ulcer from the beginning, because of maceration of the surface of the epithelioma from the presence of saliva, which keeps the horny epithelial matter of the diseased portion washed away. The same thing occurs in the rectum when the epithelioma begins on the surface of the mucous lining.

This man is forty-six years of age, about the age when carcinoma is most common. He has lately lost a great deal in flesh. It is probable, therefore, that this adeno-carcinoma will go on increasing in size and thickness. In fact, everything about the case points to rather an unfavorable prognosis.

When there is a new growth, rapidly increasing in size, located near the neck of the bladder, it does not necessarily involve the prostate nor the interior of the bladder, although bladder-symptoms may be present. It is sufficient if it be near enough to irritate the nerve-filaments which go to the neck of the bladder.

This case, gentlemen, is a very interesting and a very important one. It is not alone interesting from the fact that we have successively discovered conditions any one of which seemed sufficient to explain his symptoms, but which at first thought would seem to have no connection the one with the other. The lesson which I wish to draw from the case is one which does not belong especially in the pale of surgical teaching, yet it is of the utmost importance to the success of the surgeon. Never let a patient with rectal symptoms go away from your office without giving him a thorough examination,—without making all you can of that first examination. At least do not let him go away with your opinion of the case unless you have made the necessary examination of all the parts. If I had told this man that he had hemorrhoids alone, which was all that I discovered on external inspection, I should have been far from the truth. I should have stated the truth in saying that he had hemorrhoids, but not the whole truth, and certainly not the essential part of the truth: that would have remained a mystery. Examining further, I found a fissure in ano. But that was not all. Going still further, and examining the bladder and prostate, something was felt high up in the rectum which at once threw light on the whole of the complex symptoms of which he complained, giving us a clear insight into the case and enabling us to make an intelligent diagnosis and to decide what we can do and what we cannot do for the patient. If we had treated this man for hemorrhoids alone, we would have expected a cure and would have been disappointed. By and by we would have found the fissure, would have cut it; yet the patient would have come back to us in a worse rather than in a better condition. He would have become cachectic. A colored discharge would have appeared at the anus. Then some person would have put his finger inside and found an ulcerated tumor of the rectum. Of course the reflection would have fallen back upon the first physician who had treated the case for months without having approached a correct diagnosis of the man's condition. Yet, gentlemen, this sort of practice is not uncommon. It is seen in the treatment of rectal troubles the same as in the treatment of urethral troubles. You know that sometimes a patient comes into a physician's office and says he has a clap, and the doctor does not even look at him, but gives him a prescription and tells him what to do. He thus treats the patient weeks and months, and the patient all that time is expecting a good result. Of course, if the patient has happened to hit upon a correct diagnosis of his case the doctor's treatment may prove of some benefit to him. But never rely upon the statement of the patient or upon a superficial examination which you yourself make in giving an opinion about an organ like the rectum or the urethra.

HEMORRHOIDS.

We will now examine a patient with hemorrhoids, treated by Dr. Wyeth by injecting the tumors with a mixture containing carbolic acid. I believe that a moderate degree of hemorrhoidal trouble can be treated successfully by carbolic acid injection. The objection raised to this method is that it sometimes causes extensive sloughing, not only of the hemorrhoidal node, but of a large portion of the mucous membrane of the rectum. A case occurring in New York was reported, I believe in the *Medical Record*, in which four inches of the rectal mucous membrane came away after a single injection of a hemorrhoidal node with carbolic acid. In some cases phlebitis, etc., have resulted, placing the patient in great danger. But my personal experience with this method is limited to only one case. I have not employed it oftener because most of the cases which come under my care are either light cases, not calling for any operation, or grave cases in which I prefer to give positive and permanent relief by resorting to the operation which you have seen me perform repeatedly at the hospital. I mean

the use of either the ligature or the actual cautery and clamp.

Mild cases of hemorrhoids, or those in the incipient stage, I frequently see get well without any operation at all. I have my share of such cases, and I rarely operate upon them. But I take the trouble to examine the patient carefully from head to foot, to learn all that I may about his internal economy. First, I examine for large masses of fecal matter hoarded up in the gut. This is a very ordinary condition of things in a man of sedentary habits who is over-fed and does not take sufficient exercise. Nearly all persons who suffer from hemorrhoids belong to this class. On examining them carefully you will find the large gut filled with fecal matter. But they may assure you that they are as regular as clock-work; they have a motion of the bowels every morning; and sufficient, they think. Apparently it is sufficient. But if you examine the rectum of such persons, as we often have opportunity to do very thoroughly at the post-mortem table after they have died of some pulmonary or other disease, you will find an extraordinary condition of things. The rectum and colon, as you know, are provided with a number of lateral pouches of greater or less depth. In such patients you will find these pouches filled with fecal matter. It differs in color, as well as in consistency, from ordinary fecal matter; it is harder, and of a slaty color. The evacuations which these patients have take place only through the middle of the gut, and more and more of the fecal matter becomes deposited on the walls. Imagine an old sewer being filled up in that manner, and you can form some idea of the interior of these people. As the channel becomes narrower and narrower from successive deposits of fecal matter along the walls of the gut, the patients suffer more and more, the descending colon and rectum feel like a hard bologna sausage; if you press upon it with your fingers the indentation remains, as if a mould were made of clay. Now, give this patient a good dose of calomel and salts, causing his bowels to move freely, and then examine him, and you will often still find a large quantity of fæces distending the intestine. But after once thoroughly cleansing out your patient he will not need an operation for the hemorrhoids. You will have done what a learned, sensible physician should do. You will not have treated the hemorrhoids as the pile-doctor does, whose vision does not extend beyond the internal sphincter; but you will have treated them as does the modern intelligent physician, whose vision takes in the entire patient. You will have cleaned out the Augean stables and have done the man a real service.

Look upon another patient, a fat man, one whose skin is pale, who appears to have no blood. Examine him, and you find that he has an enlarged liver. You question him, and you find that he has been drinking more beer than is good for him. Now, if such a man has internal hemorrhoids, would it be rational simply to treat those hemorrhoids? He looks like a vigorous man, but you find that after ascending a few steps to enter your office he is out of breath and is glad to sit down and rest himself. He has come to be treated for hemorrhoids, but on further examination you find not only enlargement of the liver, but also disease of the heart. There is obstruction to the whole portal circulation. Of course the hemorrhoidal veins are overfilled. Would it be rational for the physician to treat such a patient simply for hemorrhoids? Of course not. If he did so treat him, his diploma should be taken from him. The heart-disease ought to be treated, and, if successfully, the hemorrhoids will disappear. I have given these examples to show that hemorrhoids in the incipient stage do not require surgical treatment. Topical treatment will, of course, make it easier for you to effect a cure, and it will satisfy the patient. He will feel that something is being done for his piles. He could not understand that you were benefiting a diseased condition in his rectum by treating his heart alone. He is a layman; he cannot see through the whole case. A good many doctors cannot. Therefore, give him some application for the anus. Let him put an ice-bag there, or a salve, or use an astringent injection.

But when you have to deal with a hemorrhoidal condition of an aggravated character, where considerable pathological change has taken place, where there is considerable infiltration and hypertrophy and prolapsus of the mucous membrane surrounding the hemorrhoidal nodes, where they have become ulcerated and reached that stage when they cannot shrink and return to a normal state, then

an operation is necessary; and in that case I think it is better to burn them away, or to ligate them. But there is weighty authority for the local use of carbolic acid: such men as Weir, Lange, and Wyeth, in this city, employ it with good results.

ORIGINAL COMMUNICATIONS.

CASES OF EXPLORATORY LAPAROTOMY FOLLOWED BY APPROPRIATE REMEDIAL OPERATION.

CASE I.—PERITYPHLITIC ABSCESS; AMPUTATION OF THE VERMIFORM APPENDIX; RECOVERY.

CASE II.—RUPTURE OF CYST IN TUBAL PREGNANCY; INTERNAL HEMORRHAGE; DEATH.

Read before the College of Physicians of Philadelphia, June 1, 1887,

BY FRANK WOODBURY, M.D.,

Professor of Therapeutics, Materia Medica, and Clinical Medicine in the Medico-Chirurgical College of Philadelphia, etc.

I HAVE the honor of presenting to the College this evening a private patient who five weeks ago to-day was apparently *in articulo mortis* with perityphlitic abscess. Laparotomy was promptly performed by Dr. Thomas G. Morton, the abscess evacuated, and the appendix vermiformis removed at its origin, as it was found to be the site of a large perforating ulcer. I also present the specimen taken from this patient, consisting of the vermiform appendix almost divided by an ulcer; also a portion of the omentum which was included in the abscess and removed with the appendix. Accompanying these is a small fecal or phosphatic concretion, resembling in size and general appearance a cherry-stone (which it was at first supposed to be), which evidently was the cause of the ulceration. The notes of the case are briefly as follows:

Charles M. N. K., 26 years of age, born in Philadelphia, paper-hanger by occupation, not married, of spare frame, of good habits, had always had good health except that for the last three or four years he has been subject to sudden and severe attacks of abdominal pain. These attacks came on without warning while he was in excellent health, and would completely prostrate him. The pain was of a stabbing character, and was most intense across the lower part of the abdomen, and especially around the umbilicus; it was attended by great irritability of both rectum and bladder; sometimes there would be diarrhœa, but there was always a marked increase in the quantity of water voided, the urine being red "like blood" in color. He is of the opinion that he has at times passed blood in his urine. These attacks, after lasting for a few hours, usually passed away gradually, leaving him rather weak for a short time; but he rapidly recovered, and enjoyed uninterrupted good health until the next attack came on.

I first saw him on the 20th of April, when he came to my office complaining of having taken cold. He looked haggard, skin and conjunctivæ rather sallow, tongue coated, no appetite, bowels constipated. He said that he felt miserable, and had pains in his muscles in different parts of his body. He had frequent micturition, and was passing a remarkably large quantity of pale urine. At this time he did not complain of abdominal pain. He was given fractional doses of calomel and sodium bicarbonate with pepsin, and directed to keep his room.

The urine, examined when he returned on the next day, contained a large proportion of albumen (one-fifth on boiling), and under the microscope showed many leucocytes and a few hyaline casts.

April 22. Felt nauseated during the night, and took some mustard-water to cause emesis. Bowels had been moved satisfactorily with small doses of calomel. After taking the mustard-water he vomited, but was not much relieved. During the day had great irritability of the bladder, and was much prostrated. He came to my office, but was so weak that he had to rest for an hour and take stimulants before he could go home.

April 23. Spent the day lying upon a lounge; now complaining of abdominal pain. He had not slept, and was very restless. Bowels not moved for two days. Repeated calomel in fractional doses (gr. $\frac{1}{10}$ every hour until five doses were taken), and ordered quinine hydrochlorate, gr. xii daily. Poultices to abdomen.

April 24. At morning visit found that during the night he suffered intensely and did not sleep at all. Bowels not yet moved. Ordered a cupful of hot water every hour to assist the action of calomel given yesterday. In the afternoon he had had several copious movements, but the pain persisted. He indicated the point of greatest tenderness about midway between the umbilicus and the middle of Poupart's ligament. A resisting mass as large as a small egg could be detected upon deep pressure in this locality, but examination caused severe pain. Morphine sulphate in half-grain doses was given every two hours, or until pain was relieved. Poultices again applied over abdomen. Temperature 103.5°, pulse 140.

April 25. Had a very bad night. Pain in tumor excruciating, swelling somewhat larger, very tender. Skin not discolored; tumor evi-

dently beneath the peritoneum. Passed urine which was said to contain some small blood-clots. Dr. Jas. C. Wilson saw the case in consultation. Diagnosis either intussusception or perityphlitic abscess. Ten foreign leeches were applied over the spot of tenderness, with great relief to the patient. Morphine and quinine were continued.

April 26. Skin around leech-bites inflamed, tumor more flat and very tender, apparently nearer the surface. Bowels not moved since the 24th. A pint of warm sweet oil was thrown into the colon with a long tube; this felt comforting, and later produced evacuation of the bowels.

April 27. Skin around leech-bites more swollen, injected, and tender. The right lower half of abdomen was dull on percussion, the dulness extending over the middle line from a point just above the anterior inferior spine of the ilium; external to this the percussion-note was clear. General condition poor, face pale, features pinched, beads of perspiration on forehead. It was decided, upon consultation with Dr. Wilson, that opening the abdomen would be justifiable. Dr. Morton saw him at 11 A.M. At 2 P.M. laparotomy was performed. The leech-bites were noticed to be suppurating. An ounce of whiskey was given before the ether was administered. The field of operation was cleaned with soap and water, and neighboring hair removed; the surface was again washed with ether, followed by corrosive sublimate solution (1 to 2000). The usual antiseptic precautions were observed as to instruments, and the field surrounded by towels wet with the mercuric solution. The incision was made directly over the swelling, and finding the muscles infiltrated with pus it was extended until it measured nearly ten inches; commencing just above and two inches to the right of the umbilicus, it continued obliquely downward to the pubes. The peritoneum was opened, and a free flow of pus followed, having a decidedly fecal odor; in it was found a concretion resembling a cherry-stone. The vermiform appendix was greatly swollen, and exhibited a perforating ulcer extending three-fourths around its circumference and very near to the point of origin. A silk ligature was applied close to the cæcum and at the terminal portion of the appendix, and the intervening portion, comprising almost the whole organ, was removed, together with a large portion of omentum which projected into the abscess-cavity, the walls of which were then scraped with a curette and douched with simple warm water.

Following the operation he entered upon convalescence, which was uninterrupted. He was entirely free from abdominal pain, except from distention of the bladder, requiring the use of the catheter for a week. The bowels were moved naturally on May 1, after he had yolks of two eggs in milk. The temperature fell after the operation, and did not again rise above 100°. The drainage-tube was removed piecemeal; the last portion was taken away on the 13th of May. He sat up May 11, and rapidly regained strength. He was out riding May 21. His recovery was assured by careful nursing, the administration of a small quantity of whiskey, a teaspoonful every two hours, and the use of Bovinin, and the Hoff's Extract of Malt, at first every two hours (℥ss of each); lately he has been taking it only four times a day. At present the wound is healed and he appears to be in his usual health.

Case II.—Mrs. W., æt. 37 years, German, married nine years, never pregnant, had complained of more or less pain in the abdomen for a couple of weeks early in May, but had continued at house-work,—washing, lifting tubs of water, and spending much time upon her feet. Previously she had good health, menses regular, bowels constipated usually. About the middle of the month there was obstinate constipation, upon which powders obtained from the druggist were without effect. The abdomen was then rubbed with turpentine and sweet oil at her husband's suggestion, and a large enema used, which produced a copious evacuation about eleven o'clock on May 20. Upon returning to bed, in about an hour after the bowels were evacuated, she experienced excruciating pain low down in the right side of the abdomen and around the umbilicus. She was seen by me for the first time about one o'clock A.M. May 21, when I found her lying upon her left side, with the knees drawn up, complaining that movements caused increase of pain. A tumor as large as an egg was detected in the right hypogastric region, above the middle of Poupart's ligament. It was intra-peritoneal, and not a hernia. Under the influence of deodorized tincture of opium she became more comfortable, but in the afternoon she seemed to be growing weaker, the abdomen was rather distended and uniformly tender, and her pulse was soft and rapid (140 to the minute). During the afternoon she vomited freely a watery fluid, and with it a large ascaris. Her menses had appeared on the 16th and had lasted four days, but on the 21st she had a copious flow of blood from the uterus.

Exploratory laparotomy was advised, and she was removed to the Pennsylvania Hospital, where the operation was performed at 9 P.M. Upon opening the peritoneum a large gush of blood occurred, and a small fœtus of about four weeks' development came out among the clots; it was estimated that about three pints of blood was contained in the abdominal cavity. There was a ruptured sac in the right tubo-ovarian region, the result of the arrest of an impregnated ovum near the extremity of the Fallopian tube. A silk ligature was thrown around the pedicle near the uterus, and the tube, ovary, and sac removed. A few

points of oozing were touched with the Paquelin cautery, the wound thoroughly cleansed with hot water, and a drainage-tube introduced. The patient had no pain after the operation, but did not react well. On the next evening transfusion of blood was performed (one of the resident physicians furnishing eight ounces for the purpose), but with only temporary improvement. She died from exhaustion about 2 P.M. on Tuesday, having survived the operation sixty-five hours.

The autopsy showed a wound united, except just at the point of emergence of the drainage-tube, the track of which was lined by lymph without any evidence of suppuration.

The uterus was found to be the site of a number of interstitial and sub-peritoneal fibroid tumors, and was moderately enlarged and contained some decidual membrane and blood-clots.

[In the discussion of this paper Dr. Morton reported another case of laparotomy which he performed for perityphlitic abscess, seen in consultation with Dr. Edward R. Stone, of this city, who furnished the following notes:

"Mrs. G. W. G., æt. 34, mother of one child (four years old), has been healthy, except that she was of a nervous disposition with decided hysterical tendency. The bowels were habitually constipated, and she had at various times during the last three years attacks of pain, apparently in the bowels, which readily yielded to anodynes and laxatives. It was reported that she had a severe attack of pain, with vomiting, last July, while she was out of town, which required hypodermics of morphia and confinement to bed for four days. In December last I attended her in an attack of abdominal pain which was not confined to any particular region, and which passed away in a few hours.

"On February 17, 1887, she was much on her feet, shopping, etc., and on the evening of that day she took a dose of pills to bring on the menstrual flow, which was a few days over-due. February 18 was spent in active work, washing and ironing. The pills operated on the bowels three or four times, but menstruation did not appear. She went to bed as well as usual, but about 11 P.M., February 18, she had severe pain, with vomiting of the contents of the stomach. The pain was described as darting from the right hypochondrium towards the navel. There was no tumor perceptible, nor tenderness to pressure. Counter-irritation with mustard was ordered, and one-fourth grain of morphia injected under the skin.

"February 19, 10 A.M. Morphia controlled the pain for about three hours, during which she had some sleep. She has not vomited, and the abdomen appears normal, except that she complains of some tenderness to the right of the umbilicus; temperature and pulse normal. Hypodermic injection repeated, and an anodyne mixture ordered.

"February 19, 6 P.M. Pain has not been very severe, but returns when the effect of morphia passes away; no vomiting to-day; bowels have not moved since Thursday; abdomen somewhat tympanitic, and tender to the right and above the umbilicus; tongue somewhat coated and red at tip; anorexia; temperature 100°; pulse 90. Morphia continued, and turpentine stupes, followed by poultices.

"February 20, 9 A.M. Has passed a restless night, requiring frequent doses of morphia; vomits freely a yellowish fluid, apparently from the small intestine; abdomen quite tympanitic and tender; no fæces nor flatus have passed from the rectum; expression anxious; pulse small, 110; temperature 101°. Small doses of calomel were added to the treatment, which served to check the vomiting, except when fluids were swallowed in considerable quantity. There was no abatement of the disease during the day, and Dr. Montgomery saw her in consultation in the evening, and advised an exploratory incision, which was declined.

"February 21. Symptoms continue. She was quieter and much weaker; abdomen very large and tender; tongue dry and red; vomiting easily provoked. An enema of water was administered during the night, but it brought nothing away. The operation of abdominal section, with a free incision, washing out the cavity, was performed this day.

"She did not recover from the shock, dying about 2 P.M. February 21, 1887.

"The points of interest from a medical point of view I may be allowed to emphasize:

"1. The possible relation of former attacks of abdominal pain to the ulceration of the appendix.

"2. The effect of the pills in hastening an impending perforation.

"3. The seat of pain not at all in the usual locality for disease, near the ileo-cæcal valve. The early symptoms seemed rather to indicate the passage of a gallstone.

"4. The paralytic distention of the bowel simulating an obstruction from some more active cause.

"EDWARD R. STONE."]

REPORT ON OPHTHALMOLOGY.

BY ALBERT G. HEYL, M.D.,

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PATHOLOGICAL ANATOMY OF THE EYE IN BRIGHT'S DISEASE.

THE following is a synopsis of an extremely important contribution to this subject by Dr. Carl, Archduke in Bavaria, well known for his work in ocular

pathology. The monograph is made up of a series of observations made upon sections prepared with the latest and best appliances known to the microscopist, and is especially valuable for the minute study of the ocular blood-vessels. The value of the observations has led to so extended a synopsis of this monograph.

Case I. — Boy, aged 12. Admitted February 8, 1882, in a completely unconscious state, into Professor Ziemssen's clinic. There was paresis of the right half of the body, right facial paralysis, left-sided cardiac hypertrophy, arterial sclerosis. Examination of urine showed a large amount of albumen, with some hyaline casts. Specific gravity 1003. Three weeks previous to this a double neuro-retinitis albuminurica had been observed. Symptoms of acute pneumonia occurred, which resulted in death. Post-mortem showed the right kidney enormously diminished in size; cortical substance markedly pigmented and diminished in area. Left kidney ten centimetres long, five centimetres broad, three centimetres thick; cortical substance diminished in area and characterized by disseminated points of pus of the size of a pin-head. Atheroma of the cerebral arteries. Apoplexies in both hemispheres. Perforating ulcer in duodenum, with consequent peritonitis.

The microscopic examination of the eyes showed the following changes in the retinal vessels: 1. An arterial vessel, cut somewhat obliquely in making the section, showed the lumen not materially changed, the endothelium normal, but the remaining coats not distinguishable, owing to a degenerative process. 2. On the same vessel another place was found in which the endothelium was not so distinct, and at one point no longer recognizable, as a conical, finely-granulated mass had worked its way into the lumen of the vessel; the vessel-wall is degenerated, as in the previous case, and the conical mass referred to seems to be the result of this change. 3. This molecular change in the vessel-coats seems to be generally characterized by the formation of round cavities or spaces, one observed suggesting very strongly an aneurismal character, but probably due to the melting of two or three spaces into one. 4. In one preparation the endothelium was forced into the lumen of the vessel by these cystoid spaces filled with detritus, thus diminishing the calibre of the vessel. 5. The endothelium may be completely detached. These changes were noted in the main arterial trunk arterioles, and even careful examination of the capillaries showed slight tendency to the same degeneration.

The venous vessels showed no changes beyond a very wide lumen, a slight opaqueness (verwaschen sein) of their coats, and a light grade of infiltration towards the perivascular sheaths. These changes in the arterial system exist principally in the neighborhood of the papilla. Likewise in the choroid, especially in the circumpapillary region, the same arterial changes occur, but much more pronounced than in the retina. Sections of large arteries showed the lumen either entirely absent or extremely reduced in calibre, while the vessel-walls were very much thickened. Hemorrhage into the arterial coats, as well as collections of blood-corpuscles in the perivascular sheaths, was observed. In some cases the regressive metamorphosis was so pronounced that it was difficult to tell whether a blood-vessel section was being observed, or simply a "hyaline" product. The observations on the choroidal vessels of medium calibre were specially interesting, because they confirm the view which Köster and his pupils have emphasized,—that in the so-called endarteritis obliterans the layer of vessel-wall which limits the lumen is attacked secondarily.

In the observations referred to, the endothelium was found intact, while the coats outside of it were attacked in the way already described, but careful study of the sections showed that the process started to the external side of the intima. The statement is not made that the intima and endothelium are never involved in this process, but rather that in arteritis obliterans the changes in the muscular tunic just as often induce closure of the vessel as those of the intima and endothelium, and that the primary change commences in the outer coats of the vessels. Another preparation showed the evidence of a tear in the vessel-walls. [This goes to show that the intra-ocular hemorrhages in albuminuric retinitis are not always per diapedesin.—H.] It is specially interesting to know that this arteritis is highly developed in the smallest arterioles of the choroid, and that the sections demon-

strated that the chorio-capillaris possesses a perithelial sheath; between this and the endothelial tube a lamellated mass was frequently observed, in some places showing a tendency to molecular disintegration; in others, masses of red corpuscles, some of normal appearance, others in a state of degeneration. An important question is in what tissue originate the degeneration-masses found in the vessel-coats. The observations seem to show that it is in the leucocytes, and the process may be designated as a leucocytic hyaline degeneration. The process begins with an hydropic degeneration of the leucocyte, the protoplasm loses its molecular (feinkörnig) structure, and is changed into a more or less homogeneous mass, and the nucleus degenerates. The red corpuscles can degenerate in a similar way. Not merely are, however, regressive changes found in the retina and choroid, but also production changes. New formations (neubildungen) were observed associated with destruction of the perceptive elements of the retina. Mingled with these new formations are here and there hyaline masses, which the intermixture of yellow-brown granules showed must have their origin in masses of red corpuscles. In none of the preparations from this case could the so-called sclerotic degeneration of the nerve-fibres be observed. The phenomena of arteritis obliterans already described were likewise observed in the vessels of the sclera, the corpus ciliare, the iris, and the conjunctiva. With this peculiarity, however, the complete obliteration of the vessels observed in the retinal and choroidal vessels was absent, except at the point where the scleral vessels join the choroidal system. In isolated spots in the iris thrombosis and complete closure of the vessel were observed.

Case II.—This case was a man, æt. 42, in whom a slight neuritis optici was observed several weeks previous to death. Post-mortem showed both kidneys diminished in size. Parts of the surface sunken in, with here and there a serous cyst. The microscope showed the change seen in the contracted congestion kidney (stauungs niere). The retinal changes in this case represented an early stage of the processes described in Case I. The muscular coat of the large arteries and also of the arterioles was œdematous and infiltrated with round nuclei (körnen). Also marked œdema of the retina, especially in layers in which the blood-vessels lie. In many places, through these changes in the vessel-coats the lumina of the vessels are narrowed so that a single corpuscle would barely pass, and some were not permeable at all. The thrombotic condition of the arterioles and capillaries resulting from this existed especially in the immediate neighborhood of the optic disk, and especially in the nerve-fibre ganglion cell-layer and the inner granular (körnen) layer. As the result of this, a degeneration existed in these layers which is to be looked upon as a coagulation necrosis. This necrosis was likewise observed in the external granulated (granulirte) layer. The choroidal changes were similar to those of Case I. With reference to the disputed question whether the ganglion-cells in the retina become degenerated in retinitis albuminurica, the author finds that they do.

Case III.—The clinical history of this case is unknown, beyond the fact that the specimen was taken from a case of albuminuric retinitis. The papilla, in contradistinction to the previous cases, was enormously swollen, its tissue-elements being pressed asunder by a serous infiltration. The changes in the vessel-coats, which were not limited to the vessels of any single membrane of the eye, consisted in an extensive cell-proliferation. It could not be observed that the tunica media was involved more than the other coats. As the result of this thickening the calibre of the vessels was diminished; in places the lumen was more narrowed than in others by a ring-like projection of the endothelium giving a nicked-like appearance to the vessel. This condition seemed to be more apparent in the nervous system, while in the arterial there was, as a rule, an even concentric narrowing. The cause of this thickening of the vessel-coats in addition to the above-mentioned cell-proliferation is an œdema of all the vessel-coats pressing asunder the elements.

Case IV.—Man, æt. 41. Interstitial nephritis; cardiac hypertrophy; marked albuminuria; specific gravity 1008; retinitis apoplectica et albuminurica. Death from pulmonary œdema, with lobular pneumonia. Post-mortem confirmed the diagnosis. Kidneys extremely reduced in size. The changes in the ocular sections were different from those in the last case, due, the author thinks, to their presenting

a much later stage of the disease. The thickening of the vessel-coats is generally missed, while hyaline degeneration of them is very common. Thrombi are numerous. As regards the nerve-tissue, the components of the opticus were markedly separated (zerklüftet), both in the region of the lamina cribrosa and to the retinal side of it. Numerous hemorrhages in the retina were observed.

Case V.—This was from a patient, 20 years old, with parenchymatous nephritis, cardiac hypertrophy with dilatation, marked atheroma of the brain-arteries, etc. The retinal and choroidal changes were essentially those of the previous case.

(To be continued.)

TRANSLATIONS.

Thymol for Tape-Worm.—As an excellent remedy for the expulsion of tape-worm, Dr. Numa Gampi proposes thymol or thymic acid. The physiological effects of thymol are very little known. Lewin claims for it germicide and antiseptic powers stronger than phenic acid. Bucholtz, studying its antiseptic properties comparatively, has shown it to be surpassed only by the bichloride of mercury; all the other antiseptics are inferior. Thymol does not confine its action solely to the inferior organisms. The method recommended by Dr. Gampi is as follows:

In the morning thirty grammes of sweet oil are given, and during the day eight grammes of thymol in twelve doses, to be taken one dose every fifteen minutes; twenty minutes after the last dose twenty grammes of sweet oil should be given.

During the administration of the thymol it is necessary to sustain the strength of the individual by cordial or stimulant, as cognac or rum, because the thymol exercises a depressing effect, according to the experiments of Huseman.

In *résumé*, the author recommends thymol for the following reasons:

1. It does not produce any disorder of the stomach or intestines, and its depressing action is easily controlled by the use of stimulants.

2. Its easy administration and rapidity of action, without requiring the classical three periods of preparation, expulsion, and after-treatment.

3. It is at the same time both a tæniafuge and a tæniacide.

4. In case of error of diagnosis, it will merely purge and disinfect the intestinal canal.

5. It may be supposed, from its action upon tænia which resisted all other remedies, that it would give very good results in the removal of any other worms that may be present.

6. Having given at all times the same unvarying result, the author thinks that we have at last in thymol a genuine specific for tænia.—*Il Racogglitore Medico.*

The Jugulation of Typhoid Fever by Quinine and Warm Baths.—In an extended paper in the *Bulletin Général de Thérapeutique*, Dr. G. Pécholier reports eleven cases of typhoid pursuing a uniformly favorable course, making sixty-five cases treated by the same method without a single failure. He concludes that by its antizymotic action quinine associated with warm baths shortens or aborts typhoid fever, cases usually terminating in convalescence on the fourteenth or sixteenth day.

Infantile Diarrhœa.—Hayem has found that the green color of the discharges from the bowels of infants suffering with entero-colitis is caused by a microbe which secretes this green coloring-material. The disease is epidemic and contagious. The best manner of treating it is to give to the child a dessertspoonful of a two-per-cent. solution of lactic acid after each time of nursing.—*La France Médicale.*

Treatment of Tuberculous Laryngitis by the Curette.—M. Gouguenheim, in the name of M. Hering, of Warsaw, read a note of cases of tuberculous ulceration of the larynx treated by scraping. Twenty-eight cases were treated, which were divided into three classes. In the first category were nine cases of laryngeal and pulmonary phthisis; duration of cicatrization from three months to a year, without return. In the second there were, of cases of return after cicatrization, three cured. In the third there were six cases of ulceration of the nose, of the pharynx, and of the tongue, with a bad general condition; but still in two cases cicatrization occurred, which persisted until death.

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EDITORIAL.

THE HEREDITY OF TUBERCULOSIS.

NOW that the parasitic origin and the contagiousness of tuberculosis have become matters of demonstration, the question of the heredity of this disease enters upon a new phase. It is among the benefits of progress in science that questions unsettled by old methods of study may at least be reinvestigated by new methods. For the invention of the method goes before the discovery of the fact, and every approach to an unsolved problem by a new way tends to hasten its final solution.

That the children of consumptives frequently become tuberculous is incontestable. But how? Do they bring with them into the world the germ transmitted by their parents, or do they simply inherit a special morbid aptitude, which, acting as a predisposing cause, renders them peculiarly prone to the exciting cause, the contagion to which they are in a high degree exposed by their necessary association with their invalid parents?

Firket, of Liege, who has recently investigated this question in the light of existing theories, although unwilling to formulate positive conclusions in the present state of knowledge, regards the following propositions as tenable:

1. The transmission of a disease from the mother to the fœtus by way of the placenta occurs only when there is an infection of the blood, as in such maladies as anthrax, relapsing fever, and (probably) variola and syphilis.

2. In primary chronic pulmonary tuberculosis (pulmonary phthisis) the anatomical signs of parasitic blood-infection are absent in more than half the cases. When this infection is observed it advances by degrees, little by little, in a manner wholly different from the infection of charbon. Complete infection corresponds to acute miliary tuberculosis.

3. Congenital tuberculous infection by way of the placenta must be regarded as possible, and seems to explain certain cases of congenital tuberculosis primarily developed elsewhere than in the lungs. The frequency of this condition needs to be investigated. But congenital tuberculosis has no special predilection for the lungs, and the fact that these organs are the seat of predilection for primary tuberculosis appears to prove that primary pulmonary tuberculosis is not ordinarily due to congenital infection by means of the blood from the placenta.

A CONGRESS OF CREMATIONISTS.

THE rest of mankind, who are disposed in an uneasy way to jest at undertakers, affect to be amused at the annual conventions of the Association of "Funeral Directors." This affectation of levity, which at best is forced, must vanish upon the announcement in the journals of an International Congress of Delegates from the Societies and Friends of Cremation to be held at Milan next September. The disposal of the dead in such a manner as will do no violence to the prejudices or the health of the living has become in the great centres of population an urgent problem. In so far as funeral directors' conventions tend to the diffusion of useful knowledge relating to the care and preservation of corpses, the prevention of contagion, and the decent ordering of funerals, they serve a useful purpose. Nor would we discourage the social aspect of these gatherings, the transient relaxation from habitual perfunctory professional sadness of manner, or some banqueting and

general good-fellowship. But we protest against all combinations to magnify the pomp and circumstance of obsequies, and to raise the cost of dying, which is one of the prime necessities of life.

The Milan Congress will doubtless lead to practical results in stimulating inquiry and diffusing information in regard to the subject of the disposal of the dead even among those who are opposed to cremation; it will reawaken an interest in cremation, which appears just now, especially among the English-speaking races, to be flagging; but its chief work will be among those already interested in and committed to cremation itself. That it will exert any influence in allaying ecclesiastical opposition is not probable, nor does it seem likely that the medico-legal objections to this method will be fully met. Yet, as it will consist largely of men of science from various points, and as its scope includes the hygiene of cemeteries, it is to be hoped that much good work will be accomplished.

The programme includes reports on the progress of cremation among the different nations, a plan for an international league among the cremation societies, proposed international legislation in the matter of the transportation of cadavers from one country to another, and in regard to their incineration and the preservation of the ashes, from the stand-point of public hygiene and legal medicine, and, finally, the consideration of the different systems of cremation in their technical, moral, hygienic, and economic aspects. There will also be held, in connection with the Congress, an exhibition of models, plans, machinery, instruments, apparel, books, laws, and other matters illustrating the subject in its historical and its present aspects.

SPERMACETI, FATTY ACIDS, AND SOAPS AS DIETETIC AGENTS.

MANY persons have an unconquerable repugnance to cod-liver oil and other fats used as food in wasting diseases. Others fail to digest fat properly, and hence in many cases digestive disturbances result when the administration of fat is attempted.

In normal fat-digestion these substances are decomposed into the fat-acids and glycerin, and the liberated acids combine with the alkalies with which they come in contact in the intestinal canal and form soluble soaps, which are easily absorbed.

The researches of Immanuel Munk have shown that the fatty acids alone are competent to produce the nutritive effect of fat, and that the glycerin with which they are in combination is not only unnecessary, but sometimes injurious.

Bearing these physiological facts in mind, Professor Senator has studied the effects of spermaceti, pure fatty acids, and soaps as substitutes for cod-liver oil and other fats in the treatment of cases characterized by deficiency of fat or rapid wasting of tissue.

According to Senator, spermaceti was formerly much used as an internal medicament in coughs and other irritable conditions of the throat, especially in children. He uses it, however, frequently as a substitute for cod-liver oil. When finely pulverized and mixed with sugar and flavored with some essential oil, as oil of lemon, it can be taken in teaspoonful-doses without producing any nausea. It is, in fact, quite palatable. Two and a half to five drachms of the spermaceti may be taken in the course of the day, and thoroughly digested and absorbed.

The pure fatty acids are given in a mixture of palmitic and oleic acids, two of the former to one of the latter. This mass can be made into pills, which, if keratinized, pass through the stomach unchanged, and are dissolved in the secretions of the intestinal canal and there readily absorbed.

Senator regards the saponified fat-acids (soaps, in short; soda soap; sapo medicinalis) as preferable to either fats or pure fat-acids. Being already in a soluble and

absorbable condition, they make no demands upon the digestive capacity of the intestine. The soap is given in pills, capsules, keratinized pills, or powdered and mixed with sugar and flavored. Senator has used soap in this manner in diabetes, phthisis, obstructive jaundice, cirrhosis of the liver, carcinoma of the stomach, and similar diseases, either of a wasting character or where a deficiency of biliary or pancreatic secretion interfered with the normal digestion of fat. He compares soaps to artificial peptones: the former are pre-digested fats, as the latter are pre-digested proteids. They relieve the overworked or weak digestive organs by supplying the required nutriment in a form ready for absorption.

NOTES FROM SPECIAL CORRESPONDENTS.

THE GERMAN CONGRESS OF PHYSICIANS.

YOUR correspondent has just returned from a trip to Wiesbaden, to attend the sitting of the German Congress for Internal Medicine, which was in session there April 13, 14, 15, and 16. This was the sixth annual sitting of this Congress, and was one of unusual interest and profit. It was a very representative body of German medical men. It included among its numbers also physicians from Austria, Switzerland, France, Holland, and the United States.

Professor Nothnagel, of Vienna, read a paper on *The Localization of Brain-Diseases*, which was discussed at length by Dr. Curschmann, of Hamburg.

Professor Ruhle, of Bonn, read a paper on *The Heredity of Tuberculosis*. The speaker observed that from its very commencement the Congress had been busy with the question of tubercle-bacilli. The Congress has in a manner grown with this question, and it seems its duty not to allow it to become cold. The great discovery of Koch was made just before the opening of this Congress in 1882, and published at its first meeting. It is not to be questioned that the true tubercular poison can originate in the body. As long as tuberculosis has been discussed, heredity has been considered as influencing its propagation. There are two aids to acute infection,—the poison itself, and a suitable ground to receive it.

The speaker then asked how the poison gained entrance into the human race through heredity. This was investigated by Baumgärtner, in 1883, who was of the opinion that the poison penetrated the ovum by way of the semen; that it remained latent in the child ten years or more, and then made its first appearance. The speaker was of the opinion that this theory stood on a very weak basis. The most frequent manner of contracting tuberculosis is from a diseased person through the sputa, and also through the glands, exfoliations of the skin, or any way in which the poison may appear on the surface and be transported by means of pocket-handkerchiefs, washing, etc. The speaker was convinced that the communication of the disease to healthy persons from those affected does not take place through the air. This is an idea which had been demonstrated to no one. Were this true, we could not enjoy life, but would be in continual fear that through some unfortunate breath we might contract the dread disease. The fact that the attendants in hospitals who have the care of consumptives are seldom attacked with the disease leads the speaker to conclude that it is not the air through which the germs are carried, but that it is communicated in another mode,—in fact, the way in which the members of the family kiss and fondle the patient and handle his linen. From one member of the family the tubercle goes to another. Instances can frequently be found on inquiry where the parents transmit the disease to their children. In such cases the family physician should put in his word of warning. The speaker would like to summon his colleagues in practice to take this position in regard to the disease and treat it from this stand-point. It is possible that we will find that the so-called cases of heredity do not need to receive their predisposition through the semen or the mother's blood. If this be acknowledged, then the theory becomes very unreasonable.

The speaker wished further to say that we should hold ourselves aloof from the idea that certain things will bring about certain forms of the disease. For instance, that pulmonary phthisis comes through inhalations, tuberculosis of the alimentary canal through the nourishment, etc. That is only a notion; and when two points are considered,—namely, that scrofulosis is also tuberculosis, and undoubtedly the poison of the tubercles can remain latent an indefinite period,—then we can understand that it is not so simple to lay the origin of tuberculosis to an inhalation of air or to any special primary cause. When a child had acquired a glandular tuberculosis and this heals, and then after fifteen years he becomes tuberculous, according to the opinion of to-day we must believe he had it latent in his system all this time.

The speaker closed his paper with the sentence, "We shall abandon the theory of he-

redity as so far understood, and in its stead place the theory of infection, the family tuberculosis, and closely observe the scrofulosis and latency."

Professor O. Fraentzel, of Berlin, did not agree with the essayist in the statement that the attendants on the tuberculous in hospitals were not infected. He had often made the observation that these attendants died of the disease. He reported from his practice in the Charité at Berlin five such cases.

Professor Lichtheim, of Berne, made an interesting report on *The Coincidences between Pernicious Anæmia and Tape-Worm.* From the cases of this kind which the speaker had observed he has come to the conclusion that tape-worm (Bothriocephalus latus) plays no great part in the causation of disease, yet it has its *rôle.* This, however, is different in the regions about the Baltic, where the people feed largely on fish. The speaker then went *in extenso* into the subject of coincidence of pernicious anæmia with changes in the spinal cord. He had found the anæmia to be the cause of the disease of the spinal cord in two cases in which there was degeneration of the posterior fasciculi of the cord. He related the results of his investigations. The observations he had made lead him to believe the transfusion of blood to be of little use, and that the infusion of salt is dangerous to patients with advanced anæmia.

Professor Rindfleisch, of Würzburg, read a very scientific study of *The Pathological Anatomy of Tabes Dorsalis*, which was listened to with great attention and received with applause.

Dr. Dittweiler, of Falkenstein in Taunus, read a paper on *The Therapeutics of Pulmonary Phthisis.* He had made the disease a life-study, and his paper was very interesting, though quite lengthy. He thought that much more than half of the cases of bacillar phthisis might be completely healed, and by proper care might remain so.

The second gentleman to read on this subject was Professor Penzoldt, of Erlangen, who started with the statement that pulmonary consumption can be healed. After proving this to his own satisfaction, he discussed the question, What can prevent pulmonary phthisis? He answered this from the stand-point that its origin is nothing less than an infection coupled with a predisposition.

1. In the battle with the numerous and invisible tubercle-bacillus, which is scattered broadcast over the whole earth, the chance for its eradication or control is but slight: one can but hope that the government may take in hand this most dangerous of diseases, as it has taken others.

2. We should seek to render harmless the foyer of development of the bacilli in tubercular patients: the possibility of direct infection has long been known from clinical observation. This origin of the disease, fortunately, however, is infrequent. Though this danger is small, yet it exists. On this account it is the duty of the physician to call attention to the danger of intimate relationship with these patients. He must also insist on the greatest cleanliness in the care of the sick, freedom from sexual connection, and unnecessary intimacy in their attendants. The physician should speak out boldly against the marriage of the tubercular, and especially insist on the rules which have been based upon our knowledge of infection. It is more nearly possible to remove the danger of infection on the part of the patients in hospitals. Consequently there must be a hospital for consumptives, or a department for them. The State should watch with the greatest care cattle suffering from murrain, as there is danger of infection from them. The well cattle should be regularly examined with respect to murrain, especially the udders; the diseased animals should be removed, and, where it is possible, destroyed. The most careful examination of animals slaughtered and of the meat put upon the market should be made by competent medical authorities.

3. One must seek to prevent the people from forgetting the danger of infection; especially this must be the case with those who are predisposed, though others are also in danger. The nursing of children by tuberculous mothers or wet-nurses, as well as kissing and tending by tuberculous nurse-girls, should be positively forbidden.

Of great importance is the keeping up of the power of resistance through very rich nourishment, especially meat-diet: the carnivorous animals are less liable to tuberculosis than the herbivorous. The skin and mucous membrane should be hardened; the muscles should be developed, as well as the lungs and the heart, and the respiratory organs protected from dust. The choice of business of the patient is of the first importance: those employments which insure plenty of fresh air—farmer, woodman, gardener, sailor, etc.—are to be recommended. For those who already have the disease the rules of life are in general the same as for those who have inherited the tendency.

The essayist now turned his attention towards the particular curative therapeutics of phthisis. There is, he said, no specific remedy for phthisis. On this account the greatest weight is to be placed on careful attention to the body. In the foreground is the air-treatment. Fresh, pure air, wherever found, must be used with faithfulness; the most curative is the place where little or no phthisis pulmonum is found, or where many have already been cured. Parallel with the air-treatment stands the rational nourishment. The nourishment must be rich as possible, principally albumen easily digested, and must be taken often,—six or seven times a day. The third in order to be recommended is bodily

exercise. The physician should watch over this closely to see that it is carried out. Walks, cautious climbing of mountains, gymnastics in the open air, are especially to be advised. As a fourth point, the hardening of the skin in the case of stronger patients should not be neglected. Lastly, the mental treatment is to be recommended. The physician should encourage the anxious, cheer the despondent, but especially hold the reckless in check. The best guarantee for the carrying out of these rules is the treatment in a hospital in a place possessing as great immunity from the disease as possible. For poor consumptives there is nothing better than good hospitals. The speaker begged his hearers to encourage, wherever possible, the founding of hospitals for phthisical patients in places fitted for them. In the latter part of his address he discussed the medical treatment of phthisis.

The subject of the therapy of phthisis pulmonum was then opened for discussion.

Dr. Brehmer, of the Hospital for Consumptives in Görbersdorf, concurred with the sentiments just expressed. He thought that the tubercular bacillus had given the therapy of phthisis a firm basis. The speaker dwelt particularly on the fact that the question of the immunity of a place is of the greatest weight, even from the stand-point of the believers in the theory of infection. They must, however, be proved certainly to be such by statistics. Such places may be found especially in mountains. Fresh air is there,—also of great assistance. The immunity does not depend wholly on the height, but also upon the geographical position of the place. Indeed, the height must be the greater the nearer the equator it lies. According to Guester, immunity is found in the Austrian Alps only in those places where at a height of more than two thousand four hundred feet the foundation of slate and the ozone regular in amount are to be found. The speaker then gave a brief résumé of his monograph on the subject, published by Bergmann, of Wiesbaden.

The President, Herr Geheimer Medicinal-Rath Professor E. Leyden, of Berlin, in his address laid down the programme of the Congress, and said much in review of what it had done and should do. Every physician knows to what a great extent the medicine of to-day has to thank the natural sciences; he knows that science alone has saved medicine from the pool of arbitrary and inhuman speculation, and founded it anew on the basis of well-grounded facts. The physician must be a searcher of nature. He must learn to observe, prove, and sift the causes of disease in a scientific manner. The task of the physician is, however, not yet exhausted. He has besides the scientific problem a practical side to which he must attend; medicine must be helpful, useful. Those who are inclined to elevate the scientific above the practical must acknowledge that medicine has not a scientific speculation, but a practical demand, to thank for its origin. Every one who has chosen the calling of a physician must undertake the accompanying duties with conscientiousness. He must bring to his assistance in the treatment of his patients all the knowledge and means which in his time medicine will command. Medicine will give up its historical culture and social consideration when it fails to keep in full view this original aim, or even allows it to be placed in the background. It remains our special duty to use the proper remedies for the accomplishment of this task. Medicine must be independent, quite sovereign in this endeavor. To her there is no dogma. Consequently the problem of medicine is not only that of the natural sciences, but there is also another problem which must be solved independently. Above all things, we must not allow the consciousness of the importance of our art to fail us, for medicine is distinguished before all the natural sciences, because she deals with the well-being of our fellow-men. "In this branch of the natural sciences which is called medicine," says C. Hüter, "is prominent the tendency to preserve the life and utility of man." This task gives to our profession her especial importance. Our time is eminently practical, and knowledge should be useful. This practical part is also a beautiful duty which one must fulfil. The field of the laboratory is to study the particular primary causes of disease, to investigate them in their laws, their connections, their actions. Still the experiments remain one-sided necessarily in that only one or few of the appearances are brought out; the great number of symptoms we can only learn at the bedside. The address concluded with some excellent advice to the Congress, and was followed by loud and long-continued applause.

The Pathology and Therapy of Whooping-Cough.—Professor A. Vogel, of Munich, discussed this subject. Pertussis was classified by Gerhardt among the infectious diseases; yet the contagion of whooping-cough is of another nature than that of the acute exanthemata. As concerns the symptomatology, the great clinicians of the last century presented a gastro-pathological theory. In the beginning of the present century the neuro-pathological theory had many followers, but this also fell to the ground as unsuccessful as was the attempt to prove whooping-cough to be a simple bronchial catarrh. There now remains no doubt that it comes under the list of infectious diseases. The essayist here recalled the decision of Linnæus, that the cause of whooping-cough was the inhalation of a contagium animatum, and related the latest revelations of the laryngoscope in the hands of Herffs, of Darmstadt, and likened it to the ideas of Beau, Rehn, Meyer of Hum, and Rossbach. The first found the whole throat hyperæmic, the others found only the posterior

walls to be constantly diseased. The essayist proceeded in relation to the pathological anatomy, saying that in pneumonia following measles and whooping-cough great numbers of microbes were seen by Theon in the pus and lung-cells of the exuded matter, and indeed in whooping-cough pneumonia he had found diplococcus and bacilli in greater numbers than in diphtheritic pneumonia. Marshall described two cases where whooping-cough was complicated with aphasia, stupor, convulsions, and hemiplegia. Wagner reports a case of subcutaneous hemorrhage in a lively five-year-old boy with whooping-cough. In some instances it is a cause of deafness. In the case of a nursing child it is a dangerous and pernicious disease to contemplate; in older children the course of whooping-cough is favorable throughout. In an epidemic in Würzburg, fifty-two children under one year were taken ill, and thirteen, or twenty-five per cent., died; two hundred and forty-six were attacked between one and five, and twelve, or four and six-tenths per cent., died; between six and fifteen years, eighty-seven, of whom one only succumbed. The author lamented that the mortality tables followed the age so closely, notwithstanding the therapeutics. The remedies recommended for whooping-cough are of two great classes,—antispasmodics and disinfectants. In treating the spasmodic cough by narcotics, one resigns every chance of shortening the process; opium or any of its preparations should not be given for any length of time continuously; however, a small dose of opium or morphine is a great relief to children who have passed sleepless nights. A combination of cannabis indica and belladonna is especially recommended by Vettersen, of Humar. Of one hundred and sixteen children, eighty-three showed a favorable result; of these, eighty were completely cured in from eight to fourteen days. Prior and P. Palt recommended the painting of the oral cavity with a solution of cocaine from ten to twenty per cent.; the application of cocaine is not entirely without danger, however. The antiseptic treatment strives to shorten the attack by destroying the germs of the disease. A residence in gas-factories, where the distilled product of the hard coal acts favorably on the mucous membrane of the respiratory apparatus, is first to be recommended. This mode of treatment is sometimes inconvenient. The same gases can be generated in the sick-room by the use of benzine and carbolic acid. After frequent experience, the author did not depend much on this treatment. The inhalations recommended by Pick, of Coblentz, in which fifteen to twenty drops of pure carbolic acid are placed in a cotton ball and inhaled, will be endured but a short time by any child. For general disinfection of the sleeping-room of the patient, Mohn burns twenty-five grammes of sulphur matches to each cubic metre of space. Further investigation in this line is to be recommended. Michael, of Hamburg, blows into the nasal cavities through a glass rod, twenty centimetres long, some powdered resin of benzoin, and besides this uses sulphate of quinine or nitrate of silver in a ten per cent. mixture with lard. The reports from this treatment in the hands of other physicians are favorable. Concerning psychical treatment, nothing new has appeared in recent literature. No followers have been found for the opinion that whooping-cough can be cured only by the rod, fortunately for the poor little patients.

The second paper read on this subject was by Professor Hagenbach, of Basle. He gave a large number of statistics. Two hundred and forty thousand children have the whooping-cough every year in Germany; in Basle, one thousand per year, with twelve deaths; in Geneva, eleven deaths; in London, thirty-six; the rest of England, twenty-two. The mortality is, on the average, four or five per cent. Toplitz reports the mortality from this disease among the children of the Polyclinic, in Breslau, in the years 1875 to 1885, as 7.90 per cent. In Basle, during the last eleven years, the mortality among children under one year has been 26.8 per cent.; from one to two years, 13.8 per cent.; two to five years, 3 per cent.; five to ten years, 1.8 per cent.; ten to fifteen years, 1.8 per cent. These figures show that whooping-cough is a serious disease for the tender years of childhood. With the greatest mortality we have also the most complications.

But what is whooping-cough? The recent investigators are about all united that it is an infectious disease. It comes epidemically, seldom sporadically. In large cities it is endemic and contagious. In whooping-cough we have a catarrh of a certain part of the mucous membrane of the respiratory tract which is connected with the immigration of fungi. At these places, through irritation of the ending of the superior laryngeal nerve, the attacks of coughing are brought on by reflex action.

Professor Hagenbach then discussed the question whether we have to deal with a local or a blood infection. He related the different positions held by Letzerich, Colston, Guéneau de Mussy, Hertf, Rossbach, Meyer of Hum, Lori of Pesth, Rehn, and Baginsky.

The following may be said with positiveness concerning the nature of the contagion. The liability of the human race to this special poison is general. The disease is most frequent in the first year of life, and is found with rarity in the first months. The susceptibility is great up to the tenth year, after which age it becomes less. It is contagious in the first and second stages. So long as mucus is produced, the disease may be carried. Outside of the human body the contagium seems to be unable to exist for any length of time. The reader then discussed the prophylaxis. Schools for small children should be carefully

watched, and children with suspicious coughs kept away as long as they cough in paroxysms. The expectorated material must be carefully removed. If the disease spreads, the school should be closed. The changing of air and place for children infected with whooping-cough is often the cause of an epidemic in places free from the disease. The author then proceeded to treat of the therapeutics, much of which he found defective.

Dr. Michael, of Hamburg, discussed the subject, and recommended a method used by him, in which he blew powder into the child's throat, and gave statistics of his success. In more than one hundred cases so treated he had more or less improved seventy-five. In twenty-five cases, no success at all; in fresh cases his method proved satisfactory, and also in those which had lasted six weeks. The speaker laid more stress upon the qualitative improvement of the cases than on the duration, and circulated through the Congress charts giving the course of the disease under the use of different remedies.

Professor Heubner, of Leipsic, considered the character of the disease to be that of a virulent catarrh, and not a blood-infection. He also exhibited charts showing the numbers of attacks of coughing per day: like the former speaker, he thought it possible to render these attacks fewer and lighter, and eventually to cause the shortening of the disease and its cure.

Dr. Schliep, Sanitäts-Rath, Baden-Baden, recommended the treatment by the pneumatic cabinet which he had used. The increased pressure of air in this cabinet acted mechanically as a sedative on the mucous membrane and increased the inhalations of carbonic acid gas. He found twelve to twenty sittings sufficient to cure a child suffering from whooping-cough. As a further remedy he recommended an emulsion of four grammes of turpentine. He also had good success from smoking the room well with sulphur, twenty-five grammes to the cubic metre of the room.

Dr. Sonnenberger, of Worms, advised the use of antipyrin. He had used it in an epidemic in Worms and vicinity with success. It immediately rendered the attacks milder and shortened their duration.

Dr. Cohen, sanitary officer for Hanover, spoke of the favorable results from inhalations of bromide of potassium, also of the use of the musk preparations.

Professor Unverricht, of Jena, considered the subject of *Experimental Epilepsy*. The lower half of the cortex of the brain contains the centres for the occurrence of epilepsy. Irritation of the cortex will cause attacks of epilepsy. The speaker knew, from experiments he had carried out upon a dog, the importance of the motor region for the muscular spasms.

Professor Rossbach, director of the medical clinic of Jena, read three short addresses: (1) concerning the physiological meaning of the leucocytes which emanate from the tonsils and the follicular glands of the tongue; (2) concerning chyluria; and (3) concerning a *breathing-chair for emphysematous and asthmatic patients*. While till now it has been necessary to use manual treatment of the thorax in order to lighten the severity of asthmatic attacks, a stool had been invented by a patient of the speaker, which enabled him to breathe compressed air without manual aid. The patient takes a seat on the chair and buckles about his chest a girth which is made fast to the stool; on both sides of the chair two arms are situated which the patient moves forward, and which movement tightens the girth four centimetres. By means of this continuous moving of the arms of the chair the patient is enabled to relieve himself. The professor had used such a stool six months in his clinic, and had improved several cases. The advantage this chair has over manual treatment is that through this band the whole thorax is regularly compressed, which is impossible with the hand. Besides, the physician or attendant will be able to carry out the manual treatment for more than half an hour, while the chair can be used as long as desired. Also, this instrument is always at hand for attacks in the night or any time when manual aid may not be available. The professor presented the chair and the patient who had invented it before the Congress, and retired amid great applause.

Professor Schreibe, of Königsberg, related how he had attained the same results through a more simple way,—viz., through elastic corsets.

(To be continued.)

BALTIMORE.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION—A PUBLIC MORGUE—PLEURO-PNEUMONIA AND INFECTED DAIRIES—DIRECTORIES FOR NURSES.

THE Fourth Annual Meeting of the American Climatological Association has just been held in this city. About thirty members were in attendance. Nineteen papers were read, about three-fourths of which treated of climatological subjects, while the remainder were devoted to laryngological or pulmonary topics. To what division of climatology the rectal injection of sulphuretted hydrogen, or the local treatment of the respiratory passages by a spray of Dobell's solution, belongs, does not seem very clear to me.

Some of the papers and discussions possessed considerable practical value, in spite of their apparent inappropriateness on the programme. To this class belongs the paper of Dr. Shattuck on the importance of alimentation in phthisis, illustrated by charts showing the increase of body-weight, and the clear statement of Dr. E. T. Bruen of the scope,

value, and methods of gaseous injection in the same disease.

The subject chosen by the President, Dr. Frank Donaldson, Sr., for his annual address was "Prophylactic Treatment of those who inherit a Predisposition to Phthisis." The question of the hereditary transmission was discussed, the rational position being assumed by the speaker that the disease itself could not be transmitted, but only a predisposition,—a condition of the system which rendered it more vulnerable to the attacks of the specific cause of the disease whenever that gained access to the tissues which are usually the point of attack. Efforts should be directed towards increasing the resisting power of the individual to the cause of the outbreak.

Dr. James R. Leaming read a paper on "The Philosophy of Climatic Treatment of Diseases of the Chest." Dr. Leaming thinks it an advantage for patients affected with this class of diseases to change their abode frequently, in order to take advantage of the improvement generally gained during the first two weeks. Instead of a permanent place at the sea-side for the season, the speaker advised that patients should begin at the northernmost resorts on the Atlantic coast and gradually work southward, stopping two or three weeks at each place. For such patients as could not afford the expense of the present resorts he suggested the establishment of government sanitaria, where the advantages of climatic treatment could be obtained at a nominal cost.

A paper of much interest was read by Dr. R. G. Curtin, of Philadelphia, who pointed out the different manners in which cases of syphilitic phthisis react to sea-air. He detailed five cases of this disease in which marked improvement resulted from prolonged exposure to sea-air, which is contrary to the usual effect of sea-air upon tubercular phthisis.

Most of the climatological papers seemed to be intended to boom certain health-resorts. In fact, the criticism was made in my hearing that the Association seemed to be a convention of persons interested in the development of special sea-shore sanitaria and mineral springs.

A paper by Dr. A. L. Loomis on "Evergreen Forests as a Therapeutic Agent in Pulmonary Phthisis" was an attempt to discuss the climatological problem from a scientific stand-point, and, as such, was fairly successful. Dr. Loomis, however, in discarding the rapidly-dying ozone theory, seems to have overburdened the peroxide of hydrogen hypothesis. As he himself acknowledges, there is a wide difference between elementary meteorology and medical climatology. But without a knowledge of the former no opinion upon the latter is worth much. To an outsider it looks as if a little study of the elements of meteorology beyond what is found in school-books of natural philosophy would be of benefit to some of the members of the Association before they begin to grapple with the more complicated problems. Of course these remarks do not apply to Dr. Loomis.

Nineteen new members were elected.

The following officers were chosen for the ensuing year:

President, A. L. Loomis; Vice-Presidents, A. Y. P. Garnett and J. T. Whitaker; Secretary and Treasurer, J. B. Walker.

The Council consists of E. T. Bruen, J. H. Tyndale, F. H. Bosworth, F. C. Shattuck, and Roland G. Curtin.

The meetings of the Association were held in the beautiful new lecture-hall of the Johns Hopkins physical laboratory.

For a number of years the profession has been active in endeavors to have a public morgue established in this city, but the economy of the City Council or of the Mayor for the time has always rendered all attempts nugatory. Last year the College of Physicians and Surgeons offered to erect and keep in order a morgue, provided a lot of ground adjoining the College and belonging to the city would be sold at a fair price to the College. The Council passed an ordinance to that effect, but the Mayor and Controller, who were authorized to fix a price to be paid for the lot, named such an exorbitant figure that the College declined to have anything to do with it.

About a week ago the trustees of the Johns Hopkins Hospital offered the use of one of their buildings as a public morgue, under the following conditions: "1. The post-mortem examinations at the morgue shall be made by a physician designated by the trustees of the Johns Hopkins Hospital, and appointed, without salary, by the city for that purpose. 2. Post-mortem examinations shall be permitted in all cases where deemed necessary by this physician. 3. The transport and burial of the bodies are to be provided for by the city. 4. All dead bodies which it is customary to send to a public morgue, such as the bodies of unknown dead and those of medico-legal interest, are to be sent to the morgue. 5. Permission to inspect bodies at the morgue shall be obtained by certificate from the health office and the police stations. 6. Unclaimed bodies, as a rule, need not be kept at the morgue longer than ten days, their clothing and effects longer. 7. Special and extraordinary expenses, such as those pertaining to chemical examinations in criminal cases of death by poisoning, are to be borne by the city. 8. The arrangement contemplated in this offer to the city of a morgue by the Johns Hopkins Hospital shall take effect October 1, 1887, and shall continue not less than three years, as the first outlay will be large. The motives which induce the trustees to make the foregoing proposition are: first, the desire of making the hospital as useful as possible to the city; second, the belief that the work

which should be done in a morgue, and the methods which ought to be employed in medico-legal autopsies, are subjects for which it is very desirable that systematic and skilled instruction should be given for the benefit of justice and of the public; third, the desire that the medical department of the Johns Hopkins University, with which the hospital is closely connected, may be able to give this instruction in a thoroughly satisfactory manner."

This is an extremely liberal proposition, but there are certain legal difficulties in the way, which will probably prevent its acceptance. As the second and seventh conditions would conflict with the duties and privileges of the coroners, who are State officials, it looks as if the city would be deprived of the advantages of a public mortuary chamber until our municipal rulers can be made to see its importance.

Quite a sensation was created here last week by the State Veterinary Bureau, which seized upon a dairyman's stable and killed all the cows found upon the premises on account of pleuro-pneumonia. It is said the post-mortem examination verified the diagnosis of pleuro-pneumonia in some of the cases. The authorities would have been justified in breaking up this man's business even if no pleuro-pneumonia existed in his herd, for I have been informed that the filthy and unsanitary conditions under which the cows were kept made it impossible for these animals to retain their health. Pleuro-pneumonia has been quite prevalent in some parts of this State, and all the power at the command of the national and State authorities is being invoked to stamp it out. Infected herds are promptly quarantined, and diseased animals killed. It is hoped soon to exterminate the epidemic here.

We have now two directories for nurses,—one managed by the Medical and Chirurgical Faculty, and a recently organized one under the auspices of the Woman's Medical College. The latter is, in connection with the Training School for Nurses, managed by the College.

G. H. R.

June 1, 1887.

PROCEEDINGS OF SOCIETIES.

AMERICAN SURGICAL ASSOCIATION.

(Continued from page 576.)

Second Day, Morning Session.

THE Committee of Conference with reference to the proposed Congress of American Physicians and Surgeons reported that they had attended the meeting of conference held in Washington, September 24, 1886, which adopted the following resolutions:

"*Resolved:* 1. That it is desirable that the following special Societies—the American Surgical Association, the American Ophthalmological Association, the American Otological Association, the American Neurological Association, the American Laryngological Association, the American Gynæcological Association, the American Dermatological Association, the American Climatological Association, with the Association of American Physicians—shall arrange for a conjoint meeting in the city of Washington, September, 1888, and subsequently at intervals of three years at the same time and place.

"2. That this arrangement shall not interfere in any way with the autonomy of each special Society, and that each Society shall retain the right to withdraw at any time from this conjoint scheme.

"3. That the special feature of the meeting shall be the conjoint assemblage of the special Societies on two evenings during the session, on one of which there shall be an address delivered by the President of the conjoint meeting, and on the other there shall be communications by a referee and co-referee on some subject of general professional interest.

"4. That each special Society approving this report is invited to appoint one representative (with an alternate), and that the representatives so appointed shall constitute an Executive Committee, to serve for one year, with power to select such officers for the first conjoint meeting as may be deemed necessary, to propose a programme for said meeting, to make all other arrangements, and to prepare and submit a plan of organization for future meetings.

"5. That all expenses connected with the conjoint sessions shall be apportioned equally by the Executive Committee among the special Societies participating.

"Owing to the views entertained by the Committees of the Ophthalmological and Dermatological Associations with regard to the interval of times of meeting, they abstained from voting upon the first resolution."

The report was adopted, and Dr. C. H. Mastin, of Mobile (with Dr. J. Ford Thompson, of Washington, as alternate), was appointed as the representative of the Association.

The following were appointed as the Nominating Committee: Drs. J. Collins Warren, J. H. Brinton, T. F. Prewitt, N. P. Dandridge, and D. W. Yandell.

The Treasurer, Dr. P. S. Conner, reported a balance of $738.46 in the treasury.

DISCUSSION UPON SUPRA-PUBIC LITHOTOMY.

The discussion of papers read on Wednesday was then taken up.

Dr. W. T. Briggs, Nashville: Dr. Dennis, in his paper, held that the time would come when supra-pubic lithotomy and litholapaxy would practically be the only operations per-

formed for the removal of stone. His idea was that no special operation is applicable to all cases. The surgeon should have all operations at his command, and should select the one adapted to the particular case. In certain cases, such as large stones, or deformities of pelvis and lower extremities, supra-pubic lithotomy is undoubtedly the best operation. There is, however, no reason why, in ordinary cases of medium-sized stones, the perineal operation should not be adopted. He regarded this operation as the best, as the external wound permits dilatation to any extent. The neck of the bladder is usually resistant, but by making a lateral incision of three lines on each side of the prostate gland, with gradual dilatation, the opening can be enlarged to an extent sufficient to permit the removal of any stone that should be removed through the perineum. A number of stones (varying from one to one and a half inches in diameter) which had been removed in this way, with recovery of the patient, were then exhibited by the speaker. There is no reason why crushing a large stone should not be combined with the medio-lateral operation. The operation is easier than the lateral operation. Incision in the manner mentioned, with the removal of all stones at once, he thought, would have a less mortality than litholapaxy.

Taking all kinds of cases at all ages, his first seventy-four cases were operated on by this method without a death. Then he had two deaths: in one a pelvic abscess complicated the case, and in the other there was scrofulosis. Forty-six cases were then operated on without one death. One did die three months after operation with general tuberculosis, but with the wound united. It is probable that in properly prepared patients without organic disease the mortality will be nothing. In the last two years he had operated upon six old men, at an average age of sixty-six years; all recovered.

Dr. D. Hayes Agnew: As Dr. Briggs has said, we cannot commit ourselves positively to any one method. The median is undoubtedly the safest operation through the perineum. The only damage likely to be done is in extraction, but this can be avoided by nicking the neck of the bladder, which allows distention to almost any extent. Where the stone is large, and yet is one which should come through the perineum, an incision may be made on each side. Drainage is more readily effected by the perineal operation. With proper antiseptic precautions the success of this operation will be even greater than at present. In cases of large stone the high operation is the best. When one has operated year after year through the perineum, as Dr. Briggs and others of us have done, with almost universally successful results, he is indisposed to give up what he believes to be a well-tried method for one which is a comparative novelty.

Dr. J. R. Weist, Richmond, Indiana, after seeing Dr. Briggs perform the medio-bilateral operation, had adopted this method in eight cases, all of which recovered. With one exception, all the patients have been old: this one was twenty years of age, from whom a mulberry-calculus weighing five hundred and twenty grains was removed. The next youngest case was fifty-nine years old, eight stones being removed. In another case, seventy-two years old, twenty-two stones were removed. From the accounts of the supra-pubic operation given yesterday, he inferred that the operation is more difficult of performance than the one described by Dr. Briggs.

Dr. H. H. Mudd, of St. Louis, said that his first operations were performed by the perineal method with good results. He subsequently adopted litholapaxy, which in the majority of cases takes the place of the perineal operation. The supra-pubic operation is of service for the removal of certain large stones and for exploratory purposes. In considering this operation, it must be borne in mind that the existence of contracted bladder with adhesions will render the supra-pubic operation difficult or impossible.

Dr. J. Collins Warren during the past year had seen two cases of the supra-pubic operation, both in the practice of others. One was for stone, and the other for tumor. There seemed to be no difficulty in the operation; both cases recovered without a bad symptom. After investigating the subject of cystotomy in the female, he had reached the conclusion that there need be no apprehension of causing vesico-vaginal fistula.

Dr. Theodore Varick, of Jersey City, two years ago had operated on a boy, 14 years of age, who had had symptoms of stone for seven years. He started with the left lateral operation, but on account of the size of the stone had to carry the incision to the right side. The stone removed weighed seven ounces and two scruples. There was no perceptible laceration, and the boy recovered completely. In cases where there was hemorrhage he had used with advantage the application of water just under the boiling-point, saturating a sponge and placing it for a short time on the bleeding surface.

Dr. David W. Yandell said that he had performed ninety-two operations by the perineum, eight by lithotrity, and six by litholapaxy. He had seen two supra-pubic operations, but it did not seem to him that this operation is an easier or better one than those mentioned. There were seven deaths from the lithotomies. In none of the cases was there any return of the stone. In the eight lithotrities there was a return of the stone in two cases; in the six Bigelow operations there was a return in two cases. The question in his mind is still *sub judice*, and until more evidence has been presented he will adhere to the opinion that the best operation is that made through the perineum.

Dr. John B. Roberts, of Philadelphia, still held the opinion which he expressed three years ago,—that the high operation is certain to be a very important one. If we wish to make a free exploration of the bladder, the high operation is better than the one through the perineum. In cases of stone operated on by a surgeon without special experience in this direction, the supra-pubic operation is the safer. With reference to Dr. Packard's suggestion to treat retention of urine from stricture by supra-pubic cystotomy, he should consider this too serious a step to take in the first place. His own view was that persistent efforts should be made to introduce a filiform bougie, which would drain off the urine. Simple aspiration above the pubes will give a chance for the passage of an instrument through the urethra in two or three days.

Dr. J. E. Michael, of Baltimore: With reference to supra-pubic opening of the bladder for retention due to stricture or prostatic disease, in his considerable experience in this direction he had never found such an operation necessary. Supra-pubic aspiration seems to be all that is necessary, and under proper precautions is safe. Then in prostatic cases the use of a soft catheter will accomplish all that can be done except some radical operation is attempted. In cases of stricture this must be treated. As to the advisability of the supra-pubic operation for exploration for some cases of prostatic enlargement and for exceptional cases of foreign bodies, there can be no question.

A STUDY OF THE PROCESS OF REPAIR AFTER RESECTION OF THE INTESTINES, AND SOME OF THE COMPLICATIONS WHICH OCCUR. BY J. COLLINS WARREN, M.D., OF BOSTON.

The speaker first referred to the anatomy of the wall of the intestine, calling particular attention to the thin submucous fibrous coat, which was the strongest of the various coats of the intestine. The peritoneal and muscular layers, as well as the mucous layer, are easily rubbed away, but this fibrous coat is exceedingly resistant. In introducing the sutures in cases of wound of the bowel, it is desirable that a few fibres of this fibrous coat be included, but care must be taken not to perforate the mucous membrane. The fact that this has been reached is readily told by the resistance offered to the needle. A number of experiments made upon dogs were then described. The operation consists in removing a portion of the intestine and a V-shaped portion of mesentery, and then bringing the parts together; the Lembert suture was the one used. After the operation the bowel was replaced in as near its normal position as possible. The dogs were killed at varying times after operation, from three to eight days. In these cases the intestines were found matted together around the seat of operation, but a current of water flowed freely through the gut. In one case the abdomen was opened a few days after operation, and this matting together of the various coils of intestine found. The intestine was replaced and the wound again closed. Six months later most of the adhesions were found to have disappeared.

SHOULD LAPAROTOMY BE DONE FOR PENETRATING GUNSHOT-WOUNDS OF THE ABDOMEN INVOLVING THE VISCERA? BY CHARLES B. NANCREDE, M.D., OF PHILADELPHIA.

In presenting this subject for the consideration of the Association, the chief object is a medico-legal one. A few years ago, in a famous murder trial the counsel urged the acquittal of the accused on the ground that the fatal result had been induced by the surgeon probing a penetrating gunshot-wound of the abdomen, and many authorities in support of this position were cited. At present the tendency is towards more active interference in these cases. The author asked that, after a consideration of the subject, the Association —the highest surgical tribunal of the country —should express an authoritative opinion upon this question. The questions to be decided are, What are the tendencies of the injury? are they towards recovery or towards death? When death takes place, what are its causes? When recovery ensues, what conservative processes occur? How likely are these conservative processes to take place, and what favors or prevents them? How reliable are unaided natural methods compared with those which art affords, and should they be imitated or avoided by the surgeon? What are the dangers inherent to the operation of laparotomy, and what advantages does it afford?

Reference was made to the experiments of Wegner and Gerwitz, showing that the healthy peritoneum can dispose of air, serum, bile, and healthy urine. When, however, air and putrescible fluids in greater amount than could be disposed of in a short time were introduced, decomposition occurred, and septicæmia resulted. A notable exception was that living defibrinated blood never decomposed under these circumstances. This seems to prove the truth of the suggestion of the author that the presence of fibrin-ferment and probably its absorption is one of the dangers of peritoneal traumatism. The ordinary micro-organisms produce no evil effects, provided the quantity of putrescible matter does not exceed that which may be disposed of in a short time. In small quantities the pathogenic micro-organisms produce no harm. Suppurative peritonitis is produced by these micro-organisms when stagnant fluids are present capable of nourishing the bacteria, when the surface of the peritoneum has been destroyed by caustic fluids, and when there is a wound of the peritoneum.

The practical application of these experi-

ments teaches that all blood and serum should be removed and free drainage provided; every wounded surface must be coaptated; if a tube be used, the opening must be carefully guarded; the depression of the circulation present during shock must be removed, and the vascularity of the peritoneum must be kept as near the normal as possible.

When visceral wounds do undoubtedly exist, the tendency of these cases is invariably towards death. Hemorrhage in itself is rarely fatal, but a very small collection of blood may be followed by fatal consequences either through the induction of sapræmia or by furnishing pabulum for the development of organisms productive of suppurative peritonitis. In nearly every case death is due to septic peritonitis caused by extravasated matters. Of those attacked with peritonitis, ninety per cent. die within twenty-four hours. When recovery ensues, the effused matter is absorbed and a limited adhesive peritonitis glues the injured organ to the abdominal walls or to a neighboring viscus. This process is successful in about eight per cent. of the cases.

The conservative processes are favored by absence of effused fluids, or, if present, only slight flatulent, fecal, urinary, or biliary extravasation; by the absence or only slight amount of effused blood or serum; by the favorable relation of the wound to neighboring viscera or the abdominal wall; but above all by the aseptic condition of the peritoneum, of the wounds and their immediate surroundings, and by complete arrest of the intestinal movements. It is apparent that nature's methods are not to be relied on.

He said that the dangers of laparotomy are shock, and the risk of rendering a peritonitis septic and diffused which might have remained local and simple; but, as we have the power of rendering the inflammation resulting from the manipulations innocuous, shock is practically the only result to be dreaded.

If these facts and the deductions from them be true, all bullet-wounds of the abdomen involving the stomach, intestines, gall-bladder, or urinary bladder, should be treated by suture or by resection and suture; injured omentum should always be excised, and the serous surfaces carefully sutured. Wounds of the liver and pancreas are to be treated in the manner to be described. A wounded spleen or kidney is to be removed, provided certain contra-indications do not exist. Even penetrating wounds of the abdomen without involvement of the viscera are better treated by exploratory section than by the expectant method. In many instances unsuspected injuries of the blood-vessels and viscera will be found and appropriately treated. The speaker laid but little stress upon most of the symptoms said to be diagnostic of wounds of the viscera, and held that the diagnosis should be made by the eye alone. The track of the ball should be enlarged, under aseptic precautions, until it has been determined whether or not the peritoneum has been opened; then median section should be performed to ascertain the existence of and repair any damage that may have been done. The above remarks can apply only to wounds of the anterior and lateral walls of the abdomen. When the posterior wall is involved it is unadvisable to ascertain the fact of peritoneal penetration by direct exploration. In these cases a correct opinion is almost always difficult, and often impossible, without laparotomy.

The rational signs of peritoneal or visceral lesion were briefly mentioned. The escape of bile, fæces, urine, or the contents of the stomach at once determines the question of visceral penetration. These signs are, however, rare even when visceral lesion is present. Repeated vomiting of considerable quantities of blood almost certainly points to peritoneal or visceral penetration. This symptom is unlikely to be present, even when there are numerous wounds, unless one involves the stomach or upper portion of the small intestine. The passage of blood in quantity by the bowel is strong presumptive evidence, but it rarely occurs early enough to be of practical diagnostic value for operative purposes. The presence of fluid within the abdomen within an hour or two after the injury is a positive indication of peritoneal penetration and probable visceral injury, for only intra-peritoneal hemorrhage could produce such rapid accumulation of fluid. The rapid accumulation of intestinal gas in the general peritoneal cavity is a sure sign of wound of the peritoneum and of the gut. To be of much value it must appear within a short time after the injury. Finally, an amount of hemorrhage which cannot be accounted for after a careful examination of the parietal wounds indicates penetration and vascular or visceral lesion.

Profound shock, if not due to hemorrhage, is a contra-indication to operation. The surroundings should not contra-indicate operation in a proper case, provided the operator be expert in abdominal surgery. Most cases will do better if left to nature than they will if operated on by a bungling surgeon. If well-advanced peritonitis exists, laparotomy is not to be done. Where there is no visceral complication, operation under these circumstances may sometimes be justifiable. Laparotomy, if done at all, should be done at the earliest possible moment that the condition will permit. Shock is the only thing that should delay the operation, and this should not do so if the condition is produced by hemorrhage.

In operating, strictly antiseptic precautions should be carried out. The incision should always be median, extending from a short distance above the umbilicus to two inches above the pubes. Unless there be free hem-

orrhage, the small intestines should be carefully gone over, keeping them constantly enveloped in towels wrung out of hot water. Afterwards the stomach, spleen, kidneys, bladder, etc., must be carefully examined. The source of a severe hemorrhage must at once be sought after. Wounds of the bowel should be secured with the Lembert suture and dusted with a little iodoform. Wounds of the liver, if occupying its free border, should be coaptated, if possible, with dry aseptic catgut, which will soon swell and fill the track made by the needle. If this cannot be done, the hemorrhage possibly may be arrested by the thermo-cautery; or, if the bleeding be free, the wound should be plugged with an iodoform-gauze tampon. If at the close of the operation the bleeding is almost completely checked, the cautery may be used as a further protection and the tampon removed. If, however, the bleeding is still free, the tampon should be replaced and allowed to remain permanently. Wounds of the pancreas, spleen, and kidneys are to be treated in a similar manner. If these measures fail, a spleen or kidney should be removed. Wounds of the bladder had better be united with dry catgut. Contused portions of the bowel should be excised. Wounded or contused omentum or mesentery should also be removed. In removing a portion of the bowel, the cuts should correspond to the distribution of large mesenteric vessels. Should the pulse fall during the operation, flushing the abdominal cavity with hot water is often of service. The peritoneal toilet is most quickly and effectively made by irrigation with warm sterilized water and subsequent removal with sponges. Wounds of the peritoneum should be united. In closing the abdominal cavity the peritoneum should be sutured with fine silk or catgut. The muscular, aponeurotic, and cutaneous structures should then be united with strong silk. The wound should be dusted with iodoform, and the dressing completed by the application of a pad of absorbent cotton and a flannel bandage.

Alimentation should be carried on by the rectum for forty-eight hours when possible. Where peritonitis comes on after the operation, its treatment will depend upon whether it has developed rapidly or gradually. In the former case there is often evidence of shock from vaso-motor paresis, and in these cases small doses of morphine with atropine will be of service, while large doses of opium may prove fatal. This should be continued until pain is relieved and the patient falls into a quiet sleep, from which he is readily aroused. In the latter stages of peritonitis one or more hypodermics of atropia will at times save otherwise hopeless cases. For the control of the vascular processes involved in peritonitis we have two powerful measures in the ice-coil to the abdomen and in the use of leeches if applied early and if the patient has not lost much blood. If the temperature continues to rise despite treatment, it is probable that ptomaines are being absorbed, producing sapræmia. In such cases, irrigation with safe antiseptic fluids is indicated.

In concluding, the speaker stated that everything advanced was to be viewed as more or less provisional, since sufficient experience in the operative treatment of these cases has not accumulated to warrant positive statements.

Thursday, Afternoon Session.

PISTOL-SHOT-WOUND OF THE ABDOMEN TREATED BY LAPAROTOMY AND SUTURING THE INTESTINES. BY R. A. KINLOCH, M.D., CHARLESTON, SOUTH CAROLINA.

J. B., colored, aged 27, was admitted into the City Hospital January 21, at 7.30 P.M. He had been shot, two hours before, in the abdomen with a pistol-ball (.38 calibre). The ball entered one and one-half inches to the left of the umbilicus. There was moderate shock. The patient seemed to be comfortable, with the exception of a slight pain on the inside of the left thigh, which was intensified by movement. Pulse 88, respiration 24, temperature 99°. At 10 P.M. half a grain of morphine was given hypodermically, and shortly afterwards anæsthesia was induced by the A. C. E. mixture. Penetration of the peritoneum was first determined, and the abdomen was then opened by median incision. A weak carbolic spray was used. The intestines were examined piece by piece and wrapped in towels wrung out of a one to ten thousand bichloride of mercury solution. The jejunum presented four wounds,—two of entrance and two of exit. The ileum had two wounds. The mesentery was perforated in two places, and was also badly torn. There was free bleeding from a mesenteric branch, which was controlled by pressure-forceps, and subsequently by ligature of silk. All the wounds were closed with the Lembert suture, using a fine round needle and antiseptic silk. The wounds of the mesentery were brought together as far as was possible, but there was an infiltration of blood which could not be removed. The abdominal cavity was washed out with a weak solution of bichloride of mercury. The abdominal wound was closed with silver sutures, and a large rubber drainage-tube introduced. Antiseptic precautions were observed throughout the operation. The next morning vomiting occurred, and an examination of the wound showed that a suture had given way and a knuckle of intestine protruded. This was returned, and the opening closed. At 5 P.M. the temperature was 102°. Vomiting again occurred, and shortly after midnight the patient expired suddenly.

Post-Mortem.—No adhesion of the parietal peritoneum had occurred. Half a pint of

dark sero-sanguinolent fluid was found in the cavity. All the intestinal sutures had held, and there was no fecal extravasation. A circumscribed abscess was discovered in the meso-colon, out of the line of the bullet. The ball was found behind the body of the fourth lumbar on the left side.

This was the third case in which the author had performed laparotomy for bullet-wounds of the abdomen without visceral protrusion. In two cases of such injury the patients recovered without operation. The first operation was performed May 27, 1863. This patient recovered. The operation was performed seven months after the injury. There had been but one discharge from the bowels, and the patient was gradually sinking. This was the first time that laparotomy had been done for gunshot-wound without protrusion.

PISTOL-SHOT WOUND OF THE ABDOMEN, INVOLVING THE LIVER, STOMACH, SUPERIOR MESENTERIC VEIN, INTESTINE, AND KIDNEY — LAPAROTOMY — NEPHRECTOMY — DEATH ON THE FIFTEENTH DAY—AUTOPSY.

This paper was read by W. W. Keen, M.D., of Philadelphia.

Miss B., in Vineland, New Jersey, a plump and healthy, well-developed girl of nearly 18, shot herself with a pistol (calibre .32), at 6.30 A.M., April 1, 1887. Dr. O. H. Adams, who arrived in a few moments, found that the ball had entered over the liver, and after a careful search found it lying under the skin of the left flank.

I saw her at 2 P.M. She told me that the wound was self-inflicted; hence the pistol had been almost in contact with the body, and the ball had probably passed in a straight line. The wound of entrance was over the ninth rib, which was fractured, four and a half inches above the level of the navel, and three and three-quarter inches to the right of the median line. Skin not burned. The ball was located eight inches to the left of the median line, one and a half inches above the level of the navel. There was moderate tenderness over the entire belly; hepatic dulness not changed; stomach resonant from fifth interspace; no cough, no râles; vocal fremitus normal; renal dulness began at tenth rib on left side, and was the same on the two sides. There was severe pain in the left shoulder. She had vomited a drachm and a half of clear bright blood, she told me, immediately after the accident. About a pint of urine, the first since the accident, was drawn by the catheter; it was not bloody. Pulse 104, respirations 30. No material rise of temperature.

As, after consultation with Drs. Adams and Bidwell, it was deemed almost certain that the belly was invaded by the ball, exploratory laparotomy was advised, consented to, and begun at 3 P.M., and lasted nearly three hours, with every antiseptic precaution. The ball was easily removed just under the skin. Neither wound could be traced positively into the belly. On opening the belly, neither blood nor serum escaped. Nor was any extravasated food or fæces noticed. There was no peritonitis. Two fingers were passed in and an effort made to discover the wound of entrance or exit, without any being revealed by touch. The wound was then enlarged and the stomach drawn out. A small round wound near the pylorus was found, and was closed by four sutures (Lembert) of the finest iron-dyed silk, a round ordinary sewing-needle being used. This wound was practically closed by the pouting mucous membrane. As the ball had entered the stomach, search was made for the necessary wound of exit. None was to be found; but the manipulation showed that a small amount of bloody serum existed in the belly, and a large area of extravasation was seen in the mesentery. But little blood had escaped into the peritoneal cavity. The mesentery was carefully torn through and a small artery tied. The chief bleeding came from a hole nearly one-eighth inch in diameter in a large vein, so large and lax that at first I thought it the vena cava; but its position just below the head of the pancreas convinced me that it was a large superior mesenteric vein just before it forms the portal vein. After much difficulty, I seized it with hæmostatic forceps and placed a lateral ligature of chromicized catgut on it.

The anterior border of the liver had been scalloped by the ball, but, as there was no bleeding, it was let alone. In addition, a large wound in a coil of small intestine in the left flank had been found. Ten Lembert sutures were used in closing it.

Returning now to the stomach, a very careful search was again made for the wound of exit. It was found obscured by a slight coating of blood. This was closed by three black silk Lembert sutures.

A systematic investigation of the entire bowel from the stomach to the sigmoid flexure showed no other wound. The left kidney was badly lacerated, and was immediately removed by peeling it out of its capsule and tying the pedicle with a stout silk ligature. A rubber drainage-tube was inserted through the wound of exit into the abdominal cavity.

The wound of entrance was cleansed, and closed by three stitches, and the wound of exit by two sublimate-gauze rubber dams, and a wide flannel bandage completed the dressing.

During the day following the operation suppression of urine was threatened, only three and a half ounces being secreted: this was quite albuminous. The next day, however, the amount rose to twenty-four ounces, and on the third day to forty ounces, and the albumen gradually disappeared. For the first three days nothing was given her except cracked ice, ice-water, and a little whiskey and champagne. On the fourth day pepton-

ized milk in frequent but small quantities was allowed, with rectal enemata of the same, and later other liquid foods. Menstruation appeared regularly when due on April 3, and pursued its usual course of four days. On the 8th she had a chill lasting twelve minutes, and the temperature rose to 104°; but as the most careful examination revealed no spot of special tenderness, no dulness, no fluctuation, and she was almost, it seemed, *in articulo mortis*, it was not deemed prudent to re-open the belly.

The next day, the 10th, she improved somewhat. On the 13th she had another chill, with a temperature of 105.4°; had vomited several times, and also had some involuntary evacuations. But, as her condition was fair, pulse 136, temperature 101°, the belly was reopened and explored. The intestines were bright and glistening, and no peritonitis existed.

Surgical bimanual examination revealed no pus or special tenderness at the site of the removed kidney, or, so far as it could be located, at the intestinal wound. No shock followed. The next (14th) she had two bloody motions, and gradually failed, dying on the fifteenth day.

The autopsy, by Dr. H. C. Smith, revealed general peritonitis except in the pelvis, but no free pus was found anywhere. Only one wound was found in the stomach, near the pylorus, and this was healed, the four stitches being seen in place. The blood in the mesentery was disintegrating and suppurating, though no abscess existed, nor was there any free pus in the peritoneal cavity. The suppuration was chiefly marked along the mesenteric attachment of the intestine. On the other side of the mesentery corresponding in position to this wound was a spot on the bowel-wall as large as a five-cent coin which was gangrenous, and in its centre were two perforations of the bowel. No wound was found except that discovered at the operation. No trouble was found at the site of the removed kidney. Although it was nearly ten hours from the accident to the time when the intestine and stomach were sutured, no intestinal or gastric juice or fluid escaped, although the intestinal wound was so large, and vomiting occurred three times.

The kidney, I believe, has never before been removed at a laparotomy for gunshot-wound, but it was clearly the right thing to do. The day following the operation the remaining kidney worked badly, only three and a half ounces of albuminous urine being secreted; but the next two days dispelled all anxiety on this score, the urine rising to twenty-four and forty ounces respectively, and the albumen soon disappeared. The early and marked compensatory enlargement of the right kidney is also of great interest and importance, though of course now well known to follow nephrectomy.

DISCUSSION.

Dr. P. S. Conner, of Cincinnati: When an operation is required, we are all agreed as to what should be done; but the most important point to determine is, *When* should the abdominal cavity be opened? The question of diagnosis is of great importance. If there is extravasation of bile, fæces, or urine through the wound, the nature of the injury is clear; but in the absence of these signs there is much doubt. There is no single symptom or collection of symptoms to be relied upon. He had been disposed to attach some value to the presence of profound depression of temperature. If the temperature remains subnormal four, five, or six hours, penetration and perforation may be considered almost certain. Diagnostial laparotomy is admirable in certain cases. In private practice we have to be largely governed by the opinions of the patients and friends. Many of these cases necessarily involve legal investigation, and it is a very simple matter to show that death resulted not from the original injury, but from the surgeon's knife. While it is wise to lay down the general rule that penetrating wounds of the abdomen—and still more perforating wounds of the viscera—should be submitted to laparotomy, at the same time we are not justified in laying this down as a hard and fast rule.

Dr. Moses Gunn, of Chicago: When Dr. Sims proposed this operation a few years ago, the profession was not ready to accept it. We are now all prepared to say that it is a proper method to pursue, but the only question is how to make the diagnosis. We have, as has been said, no positive signs of visceral injury. We are now fully warranted in saying that we may resort to laparotomy for purposes of diagnosis when we are in doubt.

Dr. T. Richardson, of New Orleans, looking over the statistics of the Charity Hospital of New Orleans, had found that in the last five years there were thirty-one cases of penetrating knife-wounds of the abdomen, of which twenty-four recovered and seven died. There were thirty-three cases of gunshot-wound of the abdomen, with thirteen recoveries and twenty deaths. Laparotomy was performed in one of the fatal cases of gunshot-wound; all the others were treated on the expectant plan.

Dr. D. Hayes Agnew, of Philadelphia, said that he had some very strong convictions in regard to laparotomy, and believed that, where there is a reasonable degree of evidence that there is a penetrating wound of the abdominal wall, especially of a shot-wound, it is the surgeon's duty to make an exploratory incision. We are not to be deterred by the possibility of some legal technicality if the case should come into court. We are to do our duty, without reference to the consequences.

Drs. David Prince, Joseph Ranschoff, and

N. P. Dandridge also reported cases bearing upon this discussion.

REPORT OF A CASE OF VENTRAL HERNIA SUCCESSFULLY TREATED BY OPERATION, WITH A SUGGESTION AS TO THE METHOD OF OPERATING. BY J. EDWIN MICHAEL, M.D., BALTIMORE.

Mrs. F., stout woman, 45 years of age, had a ventral hernia resulting from a fall several years previously. Great annoyance was experienced in the use of pads and bandages. The longitudinal opening was about two and a half inches in length. The patient insisted on operation.

March 15, 1886, the operation was performed. Antiseptic precautions were adopted. Free incision was made in the median line. The sac was carefully separated from surrounding tissues. It was then emptied of its contents and opened. The sac was cut off close to the margin of the ring. Strong silver-wire sutures were passed a little less than one-half an inch apart, having a hold of one-half to three fourths inch. The sutures included the peritoneal, muscular, and tendinous structures only. These were twisted, and perforated shot employed. The wire was then cut off close. The skin and subcutaneous tissues were secured with catgut sutures. A half-dozen catgut strands were placed in the wound for drainage. The wound united rapidly. In October, examination of the wound showed it to be firmly united. The sutures could be felt, but gave no inconvenience. In his remarks the speaker stated that his object in using the wire sutures in this manner was the expectation that they would be surrounded by a mass of cicatricial tissue, making a permanent closure of the ring. As far as he was aware, he had used the wire for this purpose without precedent.

A paper on "Prognosis in Sarcomata of the Breast," by Dr. S. W. Gross, of Philadelphia, was read by title and referred to the Publication Committee.

THE MEDICO-LEGAL ASPECT OF CRANIAL AND THORACIC WOUNDS (SUICIDAL). BY D. HAYES AGNEW, M.D., OF PHILADELPHIA.

The study of this subject had been suggested to him by a recent case occurring at Newport, Rhode Island. The question was as to the possibility of a cranial wound and a wound of the heart being self-inflicted. A colored man was found one morning lying dead under the breakfast-table. He had food in his mouth, and had a wound of the head and of the heart. The coroner's jury rendered a verdict of suicide, and the body was buried. Subsequently it was disinterred and the verdict reconsidered, and the conclusion reached that the man had been murdered. Suspicion then fell upon the son-in-law of the man, who had up to this time borne a good reputation. At the trial five medical experts were called for the prosecution, and their general testimony was that these wounds were incompatible with the idea of suicide. Subsequently the prisoner confessed that he had committed the murder. As this was an important question, the author had investigated it. There are two conditions resulting from injury of the head which would prevent the infliction of a second injury: these are unconsciousness and paralysis of one or both upper extremities. Injury to the brain is not necessarily followed by loss of consciousness or by paralysis. Many cases were cited to show the truth of this statement. Numerous instances of heart-injury were given in which, after the reception of the accident, the individual was able to perform many acts. Cases were also given in which persons, in attempting suicide, had produced injuries of the head and of the heart. As the result of his study, the speaker concluded that it is possible for a ball to enter the brain without destroying consciousness, although for a moment it may cause mental confusion, and that a suicide may shoot himself in the head, and after a moment shoot himself in the heart.

In the discussion which followed, numerous cases were related in which the heart or brain had been injured and the individual had lived for some time and had not been unconscious. Cases were also given in which both a wound of the brain and of the heart had undoubtedly been produced by the individual himself.

(To be continued.)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

MEETING OF APRIL 7, 1887.

(Continued from page 579.)

OVARIAN CYST SIMULATING OCTOPIC GESTATION. (REPORTED FOR DR. F. A. PACKARD.)

MRS. T., Italian, white, æt. 29; married the second time about two years ago; had five children, all by the first husband; no miscarriages; labors all easy and natural; made good recoveries, and nursed all her children. Menstruation regular in time and quantity until November, 1886: it was absent in November and December.

For the past month she had been bleeding freely, the hemorrhage appearing in clots mixed with what seemed to be shreds of decidua. The breasts tingle, but are not apparently enlarged; face blotchy; no abdominal enlargement noticed. She has had nothing like labor-pains. The discharge is of bad odor. She has had no fever or chills.

Examination showed a cystic tumor in the pelvis, to the right of the uterus, about the size of a gravid uterus of the second month.

Operation.—On January 10, the patient being etherized, an incision three inches in length was made in the median line of the abdomen, just above the pubis. Hemorrhage from the abdominal wound was slight. A small cyst of the right ovary was found, consisting of two chambers,—one being filled with clear serous, the other with darker, blood-stained fluid. There were no adhesions. The cyst was removed unruptured, the pedicle ligatured with silk and returned. The cyst was about the size of a small orange, and sprang from the right ovary. The patient's condition after the operation was excellent. She had no rise of temperature or pulse, and no pain. Four stitches were removed on the fifth day, and the remainder on the seventh day. There has been no return of the bleeding.

ABDOMINAL SECTION FOR INTESTINAL PERFORATION. (REPORTED FOR DR. FRANCIS L. HAYNES.)

Mrs. M., aged 20, nullipara, had suffered for nearly a year from diarrhœa, cough with purulent expectoration, and symptoms produced by uterine disease and general weakness. March 9, 1887, she was suddenly seized with severe abdominal pain, which shortly became intense in a spot two inches to the right of the median line and three inches above Poupart's ligament. The temperature varied from 100° to 104°; pulse from 120 to 140. Vomiting and purging and slight ballooning were other symptoms. The attending physicians, R. and F. L. Haynes, diagnosticated peritonitis from intestinal perforation.

As the patient gradually became worse, Dr. Joseph Price made abdominal section on March 14. The intestines were found matted together. They were washed and wiped with sponges. Two pieces of fecal matter, each about the size of a pea, together with some serum, were removed from the cavity. The abdominal pain and swelling now diminished, and by the third day after the section had entirely disappeared. The temperature gradually sank to the normal. On the seventh day the patient became delirious, collapsed, and died on the morning of the eighth day after the section. No autopsy was allowed. It was thought that general tuberculosis was the cause of death.

PYOSALPINX IN ITS RELATION TO PUERPERAL FEVER.

Dr. J. M. BALDY presented this specimen not simply because it was one of pyosalpinx, but because of its extremely important relation to the puerperal state, and, as far as he is aware, because it is the first of its kind ever operated upon and life saved when the patient was dying from so-called puerperal fever. The patient, Mamie P., 23 years of age, was delivered of a male child, after a tedious but normal labor, some four years ago. She was at that time confined to her bed for eight weeks with "an inflammation in her stomach." She, however, made a good recovery, and has not suffered from pain or ache in her abdomen since. On February 3, 1887, he was called to attend her in her second labor. Although he went with the messenger, he found the labor over: a dead child, together with the placenta and all the membranes intact, lay between her thighs. Her uncovered arms, chest, and legs were exposed in a room without a fire. No examination was made, but she was put between warm, dry bedclothes as quickly as possible. On the second or third day she had a chill, with a quick rise of pulse and temperature, and a tympanitic and tender abdomen. These symptoms abated somewhat, and he lost sight of her for several weeks. On the 3d of March, one month after her confinement, he was again summoned to her, and found that she had been suffering ever since he had last seen her. She had become so emaciated that he hardly recognized her; her temperature 102°+, pulse 130; she had continued chills and creeps, hectic, night-sweats, and sleepless nights; her abdomen was swollen and tympanitic and intensely painful; her bowels loose and fetid; micturition and defecation were both painful. She was evidently fast approaching death. An examination of the soft parts showed no sign of a recent tear. The uterus was subinvoluted, and on the left side there was a large boggy mass firmly adherent, tortuous, and extremely tender. The right side was tender, but no mass could be detected. Abdominal section was advised as the only remaining hope of saving her life, and the proposition was eagerly accepted by the patient and her friends. Dr. J. Price saw the patient and confirmed the opinion of immediate operation. He operated on March 5, the delay being necessary in order to have her surroundings cleansed. Drs. J. Price, McMurtrie, of Danville, Kentucky, and Mr. Eckman, of Scranton, Pennsylvania, were assisting. The right tube and ovary were healthy, and were not removed; the left tube was almost as large as the uterus, and firmly adherent in all directions, especially to the bowels, from which it was separated with great difficulty. An abscess of the cellular tissue was ruptured while breaking up the adhesions, and pus welled up through the abdominal incision. Both tube and ovary were removed. A large cheesy mass on the bowel at the point of adhesion was trimmed down with scissors, and Monsel's solution applied to the bleeding points. After a free irrigation a drainage-tube was put in, and the incision, which was only one and a half inches in length, was closed. The tube was found to be distended with pus; the ovary was disintegrated and contained pus. The patient rallied quickly, and had no shock; her pulse fell to 80 and her temperature to normal within twelve hours, and remained so. The tube was re-

moved on the seventh day. There had been little or no pain; no catheter, no laxative or drug of any kind, had been employed. The day after the removal of the tube her pulse began to rise, as also did her temperature; pain developed in the left ovarian region, and she began to have hectic and cold creeps. About the eleventh day there was a free gush of pus from the tube-tract, and she began to improve again from that moment. A rubber tube was inserted and passed deep into the pelvis, and the abscess was washed out twice daily. The discharge gradually diminished, and the tube was again removed. The wound is now completely healed, and the patient is a well woman.

The belief that a certain proportion of our puerperal fever cases are simply cases of salpingitis septica is by no means a new one, and is probably held by most of the great operators in the world. Dr. M. Sänger says that "salpingitis septica coexisting with severe puerperal septicæmia has never as yet given the surgeon an opportunity to remove the principal focus of disease by the extirpation of the tubes. It is possible, however, that under certain circumstances such a procedure might be indicated." Dr. Carl Schroeder holds that "septic endometritis does not extend to the tubes, as a rule. Occasionally, however, it does go on to a purulent salpingitis." That these cases do exist much more frequently than we have had any idea of is certain, and that oftentimes a life otherwise doomed can be saved by operative interference is proved by the case presented to-night. Mr. Tait mentions four deaths from this cause in Queen Charlotte Hospital alone, and says "that these cases were, during life, all regarded as puerperal fever." Dr. A. Martin, out of a total of two hundred and eighty-seven cases, found that seventy resulted from the puerperal state. Dr. Sänger mentions two cases which have come to his knowledge in which the over-distended tubes burst and discharged pus into the abdominal cavity, with death on the fourth day after confinement in one case and on the twenty-first day in the second case. He thinks that in both these cases the salpingitis existed before delivery, and mentions a case in his own practice in which this certainly was the condition. Hecker, as early as 1878, mentions two cases in which the pyosalpinx was old and was only lit up by the puerperal state. Whether the disease arises *de novo* or, having already existed from other causes, is simply lit up by the puerperal state, must be determined in each individual case. Hecker's and Sänger's cases, as mentioned, had a pre-existing salpingitis, but in the seventy cases reported by Martin the micro-organisms of puerperal septicæmia were found in the contents of the tubes, and no mention is made of any other micro-organism, so it is fair to presume that these cases arose from the puerperal state pure and simple. Of course the possible contagion of gonorrhœa can never be eliminated except by a microscopic examination. In his case, although the trouble seemed very clearly to have arisen at the time of the second labor, possibly with her first labor also, yet the chances of gonorrhœal infection both before and after her first pregnancy are so great that he cannot pretend to say it was not present. The operation has up to this time been done at least four times in Philadelphia. One case was operated on just two weeks previous to mine by Dr. Longaker, in which a pyosalpinx was found and removed, the patient dying on the second day. Dr. J. Price has since operated twice, and in one case found more than a quart of pus in the abdominal cavity. The case unfortunately fell into his hands too late, and the patient survived only two days. These cases, though few in number, certainly teach us that the work done in this direction is encouraging, and, although a large percentage have died, it only warns us of the extreme importance of an early diagnosis and prompt surgical interference. It becomes our imperative duty in every case of post-puerperal trouble to make a thorough investigation of the case on the appearance of the first symptoms, and should a fulness be found on either or both sides of the uterus, accompanied by pain on touch and with constitutional symptoms of gravity, there should be no hesitation as to the course to pursue. This being secured, our present high mortality of one woman out of every hundred delivered in large cities, as recently stated in a statistical paper on lying-in charities in the United States, must be largely diminished, and the fatal influences now surrounding our parturient women must become infinitely less.

Dr. J. PRICE remarked that the operation in this case was difficult and tedious, and was done with great care. He believes that conception can take place coincident with desquamative salpingitis. Salpingitis even of gonorrhœal origin may affect one tube only, and the other, being normal, may give exit to an ovule. Six months ago he removed a large pus-tube from the right side; the woman is now four months pregnant. If he finds induration and distention of a tube with inflammatory symptoms during the post-parturient period, he does not hesitate to operate at once, the operation involving less danger to the patient than the rapid progress which the inflammatory process will take at that period. He read from a letter from Mr. Tait, "There can be no doubt as to the frequency of the occurrence of puerperal pyosalpinx, and what we want to do is to hammer at people until we get them to open the abdomen in primary puerperal peritonitis." Dr. Price does not think septic post-partum salpingitis would be unilateral. He would also call attention to the extreme degree of degeneration that has taken place in the tissues of the tubes themselves, and most commonly unilateral only: they are

quite cheesy in character. This change could not occur in so limited a space of time, a few days only.

Dr. LONGAKER remarked that one of the four cases referred to by the author of the paper was a patient who was under his care, and who died forty hours after operation. Briefly, the history of the case is as follows. A young woman from Maryland came to his office, being in the sixth month of her first pregnancy, for treatment for a profuse mucopurulent discharge having all the characteristics of a recent gonorrhœa. A month later, premature labor set in. The child did not live. The placenta came away entire. Four days after labor she began to complain of a severe pain in the left inguinal and hypogastric regions, paroxysmal and associated with great tenderness. The tongue was dry, but there was no nausea or vomiting. There was no chill, but the temperature was slightly elevated. The same symptoms continued for the next two days. On the eighth day, 7 A.M., she began to complain of intense cutting pains; temperature 96.5°, pulse 96. Four hours later, under the free use of morphine, the pain was relieved, the temperature had risen to 102°, and the pulse to 120. Dr. Joseph Price kindly saw the case with him, and agreed on the advisability of laparotomy. During the afternoon her temperature continued to rise, reaching 104° in the evening. On the following day she was much better, was free from nausea and vomiting, and had no severe pain. Owing to this apparent improvement, Dr. Longaker allowed himself to be persuaded to put off operating. The abdomen was opened February 14, 1887, the ninth day after delivery, and nearly sixty hours after the onset of acute peritonitis. General peritonitis and a large quantity of pus in the region of the left cornus uteri, exceedingly foul in odor, were found. The left tube was removed; it was an inch in diameter. The uterus was fairly involuted; it was firmly fixed in the pelvis. The wound drained freely, but incessant vomiting set in, and the patient died forty hours after operation. Is it not assuming too much to say these cases had pyosalpinx before conception? He is sure such was not the case in his patient. Though she had lived irregularly with a man for some five years, she had had at no time such symptoms as would lead us to suspect this disease. It would be possible, if pyosalpinx be the consequence of a poison from without, to find entrance to the tubes during the first three and a part of the fourth month, before decidua vera and reflexa become firmly united, but the result would most likely be an abortion at the time of the invasion. The morbific matter probably obtains access to the tubes after parturition is completed, and owing to the combined circumstances acts in an explosive manner. Is not the pyosalpinx originated after labor as the result, it may be, of a gonorrhœa contracted between conception and labor or before conception?

Dr. HIRST presented a specimen from a case of

VIRULENT PUERPERAL SEPSIS,

by permission of Professor Parvin, in whose service the case occurred.

The specimens are interesting not merely because they come from a case of puerperal fever, which unfortunately is not a rare disease, but from the rapidity with which the disease terminated fatally, and from the possible point of entrance of the septicæmic poison. The history of the case before delivery presents nothing worthy of note. Immediately after delivery the temperature was 99.5°, and in spite of the most energetic antiseptic treatment of the vagina and uterine cavity the temperature rose to 102°, but dropped again to 99.5°, only again to rise to 102°, where it remained till the woman's death, about seventy-two hours after the birth. The post-mortem examination showed diphtheroid patches in the vagina extending into the cervical canal; the uterine cavity and walls were normal; the peritoneum, tubes, and ovaries healthy; the kidneys were the seat of numerous metastatic abscesses, and there were several infarcts in the liver; the lungs were healthy; the rectum was covered with extensive patches of diphtheroid membrane,—a very interesting condition, for it indicates the possibility that here was the point of infection, and if this is the case this specimen assumes considerable importance, for he knows of only three such cases recorded in medical literature,—one by Winckel, the others by Koester and Von Recklinghausen. These specimens may well serve to call attention to the possibility of infection by the administration of enemata, and to the importance of observing the most minute precautions as to the chemical cleanliness of every instrument that may come in contact with the parturient or puerperal woman.

A LARGE OVARIAN CYST CURED BY EVACUATION, DRAINAGE, AND OBLITERATION OF ITS CAVITY.

Dr. W. H. PARISH: On January 27, 1887, I operated on a Jewess, 27 years of age, for the removal of a large abdominal cyst. I saw the patient for the first time on January 24. She was then under the care of Dr. N. Hickman, who placed her under my care for operation. She was the mother of four children, the youngest only four months of age. In her last labor she had been attended by a midwife, and but little reliable information could be obtained with reference to the existence of an abdominal tumor during the three weeks following labor. The patient stated, however, that her abdomen was not unusually large after the birth of the child. About three weeks after labor she was under the care of Dr. Hickman for a few days, during which time she presented the usual symptoms of general

peritonitis. She then passed into the hands of others, and was not seen again by Dr. Hickman until just before I operated. During this period of three months she was visited by a number of medical gentlemen. Aspiration was resorted to by one of the number. Laparotomy was repeatedly urged, but persistently refused by the patient. The abdomen increased rapidly in size; pain became constant; appetite entirely disappeared; vomiting occurred at very short intervals; hectic became marked, with occasional rigors, and emaciation had reached an extreme point. The lower extremities were but slightly œdematous, and there was no special enlargement of the superficial abdominal veins. The abdomen was greatly distended, tense, and tender, and the patient was so exhausted that she could not rise from the semi-recumbent position. She was at once transferred from her surroundings of filth and poverty to a private hospital, and I operated without delay, as it was apparent that without surgical relief her life could last but a few days longer. There were present Drs. Hickman, R. P. Harris, S. D. Lazarus, John Hand, and F. A. Packard. The patient had a general sponge bath with soap and water, and stimulants had been administered. Before etherization the pulse was 130 per minute; there was a dull percussion-note over the entire abdomen anteriorly, and the diaphragm was pushed well upward by the tumor. Fluctuation was distinct, though palpation suggested a thick-walled cyst rendered very tense by reason of the degree of distention. I gave a diagnosis of ovarian tumor, with suppurating contents and extensive adhesions. Incision two and a half inches long in median line: without opening the peritoneal cavity the knife cut into the cyst-wall, which was easily recognized by its consistence, color, and anatomical elements. There were anterior adhesions of great extent and firmness. The cyst was opened, and a quantity of pus-like fluid of offensive odor escaped. The cyst did not empty itself, and the introduction of two fingers showed large masses of lymph-like character, varying in density and size. The introduction of the hand was required to remove these masses. In the interior were a number of thin septa, such as are seen in colloid ovarian tumors. The great bulk of the contents was an apparent mixture of pus, lymph, and detritus, while part of the contents presented the translucent appearance of the fluid of some ovarian tumors. After thoroughly emptying the tumor it was evident that its walls were everywhere adherent. No portion of the wall could be brought into the abdominal incision. There were evidently dense adhesions to the liver, spleen, stomach, intestines, and to the pelvic brim and contents. The tumor did not dip down into the pelvis; the walls were everywhere thick and strong. At this stage of the operation the patient's condition seemed threatening imminent death: pulse 140, and exceedingly feeble. The ether was withdrawn, and was not used again; stimulants were given hypodermically. The thickness of the cyst-walls and the universal adhesions rendered the case one well adapted to treatment by drainage. I decided not to remove the cyst. I now thoroughly cleansed its interior, introduced a glass drainage-tube, and approximated around it the walls of the abdomen and cyst, carrying the sutures into the cyst-wall but not through it.

The patient rallied well, and there was no ether-vomiting. For several days the discharge through the tube was of a purulent fluid similar to portions of that removed during the operation; its character then changed to that of ordinary pus. The cavity of the cyst was daily emptied of about two ounces of fluid, and phenol-sodique injected in the same quantity. The abdomen was covered with a compress and binder, to keep the inner cyst-walls approximated and to encourage absorption of the exuded lymph. The area of dulness diminished rapidly from day to day, and the discharge diminished with surprising rapidity. At the end of two weeks a shorter drainage-tube was substituted, and at the end of three weeks rubber tubing about three inches in length was introduced in lieu of the glass tube. The wound was entirely healed by the end of the fourth week. Examination showed a small flattened mass, two by one inches, underlying the abdominal wall and adherent to it. The patient's appetite became ravenous a few days after the operation, and she was fed liberally. The recovery of the patient is now complete, and I feel confident the cyst-cavity is so effectually obliterated that it cannot refill. Does the rapidity of the shrinkage and disappearance of the cyst indicate that it was not an ovarian tumor? I answer in the negative. It was not an extra- nor an intra-peritoneal abscess, for abscesses do not contain such septa nor such fluid. The character of the contents and septa distinguishes this case from two cases operated on by Tait, in which he ascribed the tumors to distention and suppuration of sacculated urachus. In making the incision I recognized the peritoneum external to the cyst. In my own mind there is no doubt as to the ovarian origin of the tumor. A specimen of the fluid was examined microscopically by Dr. F. A. Packard, who has written as follows:

"I found it to be composed of numerous fatty degenerated epithelial cells, leucocytes, and granular material, entangled in a dense mesh-work of fine, homogeneous, fibrin-like fibres. There appeared to be no definite arrangement or other evidence of an organized tissue. The general appearance was that of a tissue that had undergone complete fatty degeneration. I unfortunately ruptured the small cyst before I could collect the contents for examination."

The entire paper will be published in the *American Journal of Obstetrics*.

Dr. R. P. HARRIS remarked that the cyst-contents consisted chiefly of a thin greenish fluid of a puriform character, in which were found masses of cell-structure, some of them as large as a fist, on the surface of which were in some instances still to be seen small translucent cysts containing a yellowish fluid; there was also noticed during the emptying process an escape of fluid from cells which had preserved their integrity, and which resembled to the eye what is often seen in tapping during ovariotomy of multilocular tumors. His own impression during the operation was that the tumor was ovarian. The emaciated state of the woman, her rapid pulse, and the strong adhesions of the cyst-wall to the abdominal parietes and viscera, satisfied him that any attempt to remove the cyst would cause the patient to die either upon the table or of shock in a few hours. Judging from the recoveries after the secondary operation in abdominal pregnancies, where it has been found of vital importance not to remove the cyst,—a measure the value of which was discovered by an accident more than ninety years ago in New York City, which occasioned its being left *in situ* and eventuated in saving the woman's life,—it was decided to adopt the same plan here. When the abdominal wound was closed in Dr. Parish's case, the thick cyst-wall could be felt like a large disk, with edges more than half an inch thick. As the disintegrating process thinned the cyst-walls, contraction of the disk took place, and the centre of the abdomen became deeply fissured, until the diameter of the disk was not more than three inches, and it was also much thinner; this change continued until the percussion-sound showed no dense structure beneath the abdominal wall. As the ovarian tumor was so altered in structure by peritonitis that its lining surface could no longer secrete ovarian fluid, there was no risk of the formation of a discharging fistula, and the wound rapidly closed as the sac contracted.

Dr. B. F. BAER remarked that he thought Dr. Parish acted wisely in not attempting to remove the source from which the fluid was secreted. He was led to express this opinion, first and mainly, because the doctor was not sure at the time of operation that there was a tumor, and, secondly, because of its very close adhesion, if a tumor existed. He questioned the ovarian origin of the fluid in this case upon the following conditions, as stated by the author: 1st, the difficulty of diagnosis before operation; 2d, the character of the fluid,—absence of the ovarian cell especially; 3d, the fact that the secretion so readily ceased after the sac had been opened; 4th, because there was such a rapid disappearance of the cyst-wall. It is so well known to all of us that the secreting surface of a true ovarian tumor is not destroyed by tapping or drainage that we have come to regard tapping and even drainage as very bad practice, where the tumor can be removed even at considerable risk: free drainage and injecting the tumor were long ago given up as futile in the cure of ovarian tumors. Then the sac of an ovarian tumor does not soon undergo atrophy and absorption, even if the secreting surface is destroyed. The cases of extra-uterine pregnancy mentioned by Dr. Harris, in which the sac disappeared so readily, were doubtless of the abdominal variety, and the gestation sac therefore largely, if not entirely, adventitious. This was probably the character of the sac in a case upon which he (Dr. Baer) operated some time ago and removed a full-term child which had been dead thirteen months. The fœtus only was removed. A drainage-tube was placed in the sac. The patient recovered, and all remains of the fœtal envelope have disappeared. Dr. Baer would admit, however, that the fluid in the case reported to-night was very like ovarian, except in the absence of the ovarian cell, which he regarded as of very great diagnostic value in a doubtful case. He requested the President to express his opinion concerning the absence of the cell in this case.

Dr. DRYSDALE remarked that it would be very difficult to detect the ovarian cell in such a mass of purulent matter, but if the fluid of the child-cysts had been examined the cell would most probably have been found. He dwelt upon the importance of the investigation of the fluid being made by one familiar with the appearance of the ovarian cells and those resembling them, as without such experience it is difficult to differentiate the cells. Dr. Drysdale referred to an obstetric case which Dr. Parish had attended for him four years ago. This lady suffered from a tumor some years before, which proved to be a dermoid cyst developed in the posterior wall of the uterus. During its growth it formed a communication with the bowel, and a great quantity of offensive fluid escaped in this way. The opening into the bowel closed, the sac filled again, the patient emaciated rapidly, and septicæmia set in. Aspiration was resorted to, and a quantity of very offensive matter removed, after which the cyst was washed out with a five-per-cent. solution of carbolic acid; this was repeated nine times at intervals, the patient declining any other operation. She had now become so emaciated that every process of bone showed through the skin, and her pallor was extreme. In this condition, with a pulse of 140 and a temperature of 105°, she finally submitted to an operation. Before this was commenced she was told that it was not likely that the tumor could be removed, as from its location in the uterine wall and its former communication with the bowel it would probably be found firmly adherent to the surrounding parts. He therefore proposed opening the abdomen, and if the tumor was found to be as he apprehended he would stitch the edges of the cyst to the

lips of the abdominal incision, insert a large drainage-tube, and close the wound. This was done, and, although the case was so unpromising, she made a good recovery, while the cyst gradually contracted and finally disappeared, but there still remains a fistulous tract where the tube was inserted, which occasionally discharges matter. She became pregnant about three years after the operation, and was delivered of a male child by Dr. Parish, who informed him that she had an easy labor.

Dr. JOSEPH PRICE had no doubt of Dr. Parish's case being an ovarian cyst. He had seen the patient and had recommended operation.

Dr. PARISH remarked that the walls of the cyst were largely composed of adventitious material, the result of inflammatory processes breaking up the original substance, and hence in part the explanation of the rapid cure of the case.

MISCELLANY.

THE American Medical Editors' Association held its Annual Meeting and Banquet at the Palmer House, Chicago, June 6, 1887. A large increase of membership and the warm interest shown by those present indicated a degree of prosperity hitherto unknown in the history of the Association. Preparations were made to have a meeting at Washington during the session of the International Congress, in order suitably to entertain medical editors from abroad.

IODOL AS A SUBSTITUTE FOR IODOFORM.—Dr. R. Norris Wolfenden prefers iodol to iodoform because it is odorless, anæsthetic, and undoubtedly antiseptic. A number of preparations containing this new agent are referred to in his communication to the *Practitioner* for May.

SULPHUROUS ACID IN WHOOPING-COUGH.—Fumigations of burning sulphur of the bedchamber during the temporary absence of the patient are highly recommended by Dr. Mohnk, a Norwegian physician.—*Therapeutic Gazette.*

NOTES AND QUERIES.

OBITUARY.

EDME FÉLIX ALFRED VULPIAN, born in 1826 at Paris, recently died in the city in which he had attained well-deserved pre-eminence, in the sixty-first year of his age. His lectures on Comparative Physiology, published in 1864, and followed by "Leçons sur la Physiologie du Système Nerveux," led the way to his great works on the Vaso-Motor System and Diseases of the Nervous System, which place him in the foremost rank as a physiologist and pathologist. He was Professor of Comparative and Experimental Pathology, and for several years Dean of the Faculty of Medicine. His death was caused by infectious pneumonia.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 22, 1887, *TO JUNE* 4, 1887.

MAJOR B. E. FRYER, SURGEON.—Granted two months' leave on account of sickness; permission to apply for an extension. S. O. 28, Division of Pacific, May 28, 1887.

MAJOR V. B. HUBBARD, SURGEON.—Granted leave of absence for one month, to take effect on or about June 1, 1887. S. O. 119, A. G. O., May 24, 1887.

CAPTAIN PAUL R. BROWN, ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 126, A. G. O., June 2, 1887.

CAPTAIN H. O. PERLEY, ASSISTANT-SURGEON.—Relieved from duty at Fort Maginnis, Montana Territory, and ordered for temporary duty at Fort Snelling, Minnesota. S. O. 49, Department of Dakota, May 23, 1887.

CAPTAIN H. G. BURTON, ASSISTANT-SURGEON.—Granted two months' leave of absence, on surgeon's certificate of disability. S. O. 107, Division of Atlantic, May 25, 1887.

CAPTAIN F. W. ELBREY, ASSISTANT-SURGEON.—Found incapacitated for active service by an Army Retiring Board; sick leave still further extended until further orders on account of disability. S. O. 116, A. G. O., May 20, 1887.

FIRST-LIEUTENANT LEONARD WOOD, ASSISTANT-SURGEON.—Ordered for temporary duty at Fort Huachuca, Arizona Territory; relieved from duty at Headquarters, Department of Arizona. S. O. 126, A. G. O., June 2, 1887.

FIRST-LIEUTENANT WILLIAM N. SUTER, ASSISTANT-SURGEON (recently appointed).—Ordered for temporary duty at Washington Barracks, D.C. S. O. 122, A. G. O., May 27, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDING JUNE 4, 1887.

PASSED ASSISTANT-SURGEON C. W. DEANE.—Detached from the "Dale" and to Hospital, Mare Island.

SURGEON H. P. HARVEY.—Orders to the "Iroquois" revoked and wait orders.

PASSED ASSISTANT-SURGEON S. H. DICKSON.—Detached from Navy-Yard, Washington, D.C., and to the "Dale."

SURGEON J. R. WAGGENER.—Detached from the "Iroquois" and wait orders.

ASSISTANT-SURGEON S. STUART WHITE.—Ordered to Receiving-Ship "St. Louis," Navy-Yard, League Island.

DR. JAMES G. FIELD (of Gordonsville, Virginia).—Commissioned Assistant-Surgeon in the Navy, May 23, 1887.

SURGEON JOHN F. BRANSFORD.—Ordered to the Smithsonian Institution, Washington, D.C.

SURGEON J. RUFUS TRYON.—Detached from the U.S.S. "Quinnebaug" and ordered home.

SURGEON CHARLES A. SIEGFRIED.—Ordered to the U.S.S. "Quinnebaug."

ASSISTANT-SURGEON WILLIAM MARTIN.—Detached from the U.S.S. "Pinta" and ordered home.

PASSED ASSISTANT-SURGEON HENRY B. FITTS.—Detached from the Receiving-Ship "Vermont" and ordered to the U.S.S. "Pinta."

ASSISTANT-SURGEON JAMES G. FIELD.—Ordered to the Receiving-Ship "Vermont."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE SIX WEEKS ENDING JUNE 4, 1887.

GOLDSBOROUGH, C. B., SURGEON.—Detailed to represent the service at the meeting of the American Medical Association at Chicago, Illinois, June 6, 1887, June 1, 1887.

BANKS, E. C., PASSED ASSISTANT-SURGEON.—When relieved, to rejoin station at Boston, Massachusetts, May 23, 1887.

NORMAN, SEATON, ASSISTANT-SURGEON.—When relieved, to rejoin station at Cape Charles Quarantine, May 26, 1887.

PHILADELPHIA, JUNE 25, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON CASES REQUIRING AMPUTATION OF MAMMARY GLAND FOR HYPERTROPHY, AND EXCISION OF THE HIP-JOINT FOR COXALGIA.

Delivered at the Jefferson Medical College Hospital, Philadelphia,

BY J. M. BARTON, M.D.,

One of the Attending Surgeons to the Hospital, etc.

Reported by Dr. J. M. FISHER, Clinical Assistant.

GENTLEMEN, — This patient, Ellen W., aged 17 years, single, a slightly-built colored girl, has an enormously enlarged left breast. Her family history is good, and she has enjoyed perfect health since childhood. She menstruated regularly until four months ago, but not since.

This breast became slightly and temporarily increased in size about three years ago. One year ago, while but little if at all enlarged, it began to grow rapidly, until it now measures twenty-seven inches in circumference; it is distinctly pedunculated, its circumference at the base being only twenty-one inches. Its outline is quite regular, its surface perfectly smooth; the superficial veins are greatly dilated, some being as large as the little finger; the nipple is retracted and surrounded by an eczematous eruption probably due to pressure, as this is the most dependent part of the growth.

Upon palpation, I find no distinct tumor in any part. It is more dense than the normal breast, and in all parts it feels as though an irregularly-coiled, small, hard rope were between the fingers. There is no sensation of fluctuation, little if any increase of heat, no discoloration, and it is not adherent to the skin nor to the deeper tissues. There is no glandular enlargement in the axilla. The other breast is apparently normal.

The size of the growth, the age of the patient, and the absence of any distinct tumor, exclude at once scirrhus, fibroma, myxoma, the smaller adenomata, and the solid sarcomas.

The absence of fluctuation excludes all cystic growths, and, I might say, excludes the softer varieties of sarcoma. Though rapidly-growing round-celled sarcoma, or any form with a large number of small cysts, frequently bears a strong resemblance to this condition, yet the absence of all fluctuation, of any decided heat, and of any pain, together with the great uniformity of the outline of the growth and the good general condition of the patient, excludes all suspicion of this form of malignant tumor.

We have here a simple hypertrophy of all the glandular apparatus. The ducts, the acini, and even the fibrous stroma are increased, and in such growths it has frequently been found that the fibrous stroma has made distinct, small, fibroid tumors. It differs markedly from the normal breast in the entire absence of fat. On microscopical examination of such growths we find some fibrous stroma, though less in proportion than in the normal gland, but great increase in the glandular elements, so that the tumor can be classed as an adenoma, or as a fibro-adenoma.

This form of tumor is quite rare: the late Professor S. D. Gross, in his Surgery, recorded but one case that came under his personal observation. Professor Agnew recorded only two, and Professor Billroth, in his book on Mammary Tumors, also states that he has seen but two cases.

Such tumors occur most frequently about the seventeenth, or from this to the twentieth, year, just after the beginning of menstruation, though some exceptional cases have occurred as late as the forty-third year. Of thirty reported cases, the average age was less than twenty-three years, though thirteen of them were under twenty and twenty-one of the thirty were under twenty-five years.

Both breasts are usually enlarged in this disease, one more than the other. In thirty-four reported cases both breasts were diseased in twenty-two cases, the right alone in seven, and the left in five.

If permitted to remain, they incommode by their size and weight and interfere materially with the individual earning her livelihood. Occasionally they are the cause of death. I find reports of three fatal cases. The first, reported by Dr. Grähs, was a young woman of fifteen years of age, in whose hypertrophied breast "abscess after abscess formed, sinuses ran in all directions, and, notwithstanding an enormous discharge of pus, the breast continued to increase in size."

She perished with pyæmia five years after the beginning of the disease.

The second case died with exhaustion, and the third with gangrene of the hypertrophied breast.

In the patient before us I will remove the entire growth, making skin-flaps to cover the wound, adopting the usual antiseptic precaution with which you are so familiar, as you have seen all your clinical teachers use them here for several years. As most of these cases bleed quite freely, I will surround the base of the gland with an Esmarch's tourniquet while I am fashioning the flaps, and will then rapidly remove the breast, seizing such vessels as spring with these Pean's forceps, which I find very serviceable under such circumstances. After all the vessels are secured by catgut, the wound again thoroughly flushed with the bichloride solution, the flaps are brought together with the continuous catgut suture and the antiseptic gauze applied. Of course there is no danger of any return of this disease.

[*Note by reporter.*—The dressing was removed the following day saturated with bloody serum, fresh mercurial gauze was applied, and, as the temperature remained normal, it was not redressed for ten days, when the wound was found to have healed without a drop of pus.]

COXALGIA: EXCISION OF THE HEAD OF THE FEMUR.

Levi L., æt. 8 years, has suffered for three years with coxalgia, the disease being now far advanced in the third stage. You see the thigh, buttock, and back are riddled with sinuses, the leg is flexed to a right angle with the pelvis, and the patient is thin, exhausted, and nervous.

Under ether, I find the leg shortened, the trochanter being two inches higher than it should be. The leg rotates freely, the femur rotating on its own axis, showing that the head and neck are separated from the shaft and probably long since broken down and discharged with the pus.

Making a free incision down to the bone, we find the trochanter carious and softened, and as two of the many sinuses are nearly in this line I shall carry my incision through them. Now rapidly raising the thickened periosteum with this special elevator of Dr. Sayre, then dividing it transversely at the point where I propose making the section of the bone,—that is, about three inches below the upper extremity of the trochanter,—I now readily loosen the periosteum entirely around the bone, and by means of a Bellocq's canula draw the chain-saw into position, with which the bone is now divided, then grasping the trochanter with a "lion-jawed" forceps it is held firmly while the muscles are separated. The trochanter and the remains of the neck are now lifted out.

I am glad to say there is no disease of the acetabulum. The carious portions have long since been separated and discharged, and the cavity of the acetabulum is filled with healthy granulations. The sinuses are now scraped, and drainage-tubes passed through some of them. The wound and the sinuses are flushed with bichloride solution, a large drainage-tube is laid in the wound, and the wound brought together.

The boy is placed at once in the apparatus known as "Sayre's wire cuirass," which extends from head to foot, covering the posterior half of the body.

It has a fenestra opposite the wound, permitting it to be dressed without disturbing the granulations which will form about the new joint.

Full extension is kept up, so that the sawn end of the femur may be opposite the acetabulum, otherwise the femur would travel up to the situation formerly occupied by the trochanter. The extension is made by adhesive plaster applied to the leg in the usual manner. The cord from the adhesive plasters runs through this pulley fastened to the apparatus just below the foot, and it then passes upward to be attached to a strong piece of elastic the upper end of which is firmly fastened some distance up on the wire cuirass. This maintains a constant tension of about six pounds. The boy is prevented from slipping down by the well foot pressing against this adjustable wooden foot-piece. In this apparatus he can be readily handled; it is not necessary to remove him from it to relieve either bowels or bladder, or to dress the wound. He can be given a change of air, he can even take a drive in a carriage.

After the cavity left by this operation has filled with granulations, the joint will be fixed by plaster or some other form of apparatus. He will then be permitted to walk on crutches, with a sole some inches thick on the well foot to keep the diseased leg from contact with the ground, and thus maintain extension by the weight of the pendent extremity.

ORIGINAL COMMUNICATIONS.

ON BLISTERING THE SURFACE OF THE BODY IN INTERNAL INFLAMMATIONS.

BY ENOS T. BLACKWELL, M.D.

OUR medical fathers had a few remedial forces which they wielded in many different conditions and with powerful effect. The theories for their action were definite in their minds, and they wavered not in driving them to a definite conclusion. That they were always judicious in the exercise of these powerful agencies can hardly be affirmed; yet we cannot fail to admire the clearness of their views, the firmness of their convictions, and the boldness of the ensuing practice.

With the revolution of years and the innovation of modern speculations, the methods so long and faithfully relied upon began to be questioned in men's minds, and by a rebound—peculiar to all reforms, genuine and spurious—a sweeping ostracism of the old procedures resulted. The most opprobrious epithets were applied to the obnoxious remedies, and they were denounced as barbarous and harmful under all circumstances. A crusade was waged against calomel, blood-letting, and blistering, which had the effect to deter the timid from their use, and to lead them to accept in their stead the alluring placebos and so-called sustaining remedies now so much in vogue. Disregarding the clamor of the ignorant aud prejudiced, I have used in appropriate cases and at suitable times each of the remedies so persistently maligned, and with excellent results.

In the *Philadelphia Medical Times*, vol. x. page 522, I gave an article on the benefits derived from calomel in certain morbid states; and in the *Medical and Surgical Reporter*, vol. lv. p. 72, one in which venesection was shown to play an important part in averting threatened destruction of life. In the present paper I propose to give a few cases from many which show the inestimable importance of blistering the surface as a curative agency in internal inflammations, whose fatality is fully described by all mortuary records. In the first of the journals named, under the heading of "Catarrhal Pneumonia,"* two cases are related in which the gravest condition was changed for the better most quickly and strikingly.

I refer to the case of Bertie B., 22 months of age, whose respirations before using the blister were 100 per minute, and the pulse 120,—a ratio of ten to twelve. After the production of a blister upon the whole front of the chest, from lines dropped from each armpit, the respirations receded to a range of 72 to 86, while the pulse-rate remained unchanged,—a ratio of seven to twelve. A renewed frequency of respiration on the fourth day thereafter was reduced by extending the blistered surface to the edge of the scapulæ on either side, when the rate of breathing descended to 50 per minute, and continued thereupon to diminish until the natural health-rate was reached. In just a month from the first outbreak as a catarrh the patient was dismissed completely recovered.

The second case was that of Walter H., 13 years of age, recorded in the same paper, and is equally instructive. He had pneumonia as a complication of measles, which commenced April 18, 1883. During the forenoon of Friday, April 20, he coughed almost incessantly. In the afternoon the cough was less, but the fever increased and the respiration became very rapid. At 9.30 A.M., April 21, the rate of the respiration, as reported by the medical attendant, was 60 per minute, varying little during the day. I saw him at 9 P.M. of that day. There were fine crepitant râles in the lower lobe of the right lung, and a few scattered coarse ones in the left. His respiration was 40 per minute, and heaving in character; his pulse 130,—ratio, four to thirteen. The temperature was 104° Fahr. April 22, 11.30 A.M., a full blister, extending across lower part of the breast from scapula to scapula and four inches wide, has been produced. The respirations now number 28, and the pulsations 120,—ratio nearly three to twelve. The crepitation is greatly lessened. At 3 P.M. of the same day the respiration had a further decline to 24 per minute, and the pulsation to 84. April 23, the respiration has risen to 36, and the pulse to 100. There is a crepitant râle of great intensity, dry and crackling, in the whole upper part of the right lung. Upon blistering the whole surface of that side of the chest not already vesicated, the respiration became easier and a moist râle succeeded. The case came to a successful issue under

* Philadelphia Medical Times, vol. xiii. p. 887.

the use of ordinary remedies. It may be proper to state here that neither opium nor quinine, which were freely used, availed to check the advance of the inflammation.

The following cases have never been reported, and are equally valuable as indications of cure:

Lizzie S., infant, was taken March 30, 1885. I saw her on the day following, when she had catarrhal pneumonia fully formed. There were crackling and sibilant râles in both lungs. The respirations were 64, and the pulse 120 per minute,—ratio, one to two. A cantharidal plaster was so placed as to conform to the contour of the whole anterior part of the chest. On the day following the respirations had decreased in a marked degree, and all the symptoms were surprisingly improved. I ceased attendance on the seventh day, the patient having entirely recovered.

Joey B., 1 year old, was taken with distressed breathing and cough March 20, 1887. I saw him at four o'clock P.M. The respirations, because of his uneasiness, were not accurately made out, but appeared to be about 90 per minute; the pulse was about 125. I found a soft cataplasm upon the chest, which was allowed to remain, and quinine sulph. was given alternately with ext. ipecac. fl., ext. jaborandi fl., and tinct. opii.

March 21, 9 A.M. There is no relief to the breathing, which numbers 84 per minute; the pulse is 125,—ratio, two to three. No râle can be detected. Cerate of cantharides was applied to the whole chest, right and left, and the other treatment was continued.

March 22. The plaster caused satisfactory vesication at the expiration of three or four hours. The respiration is less labored, and shows a rate of 72. A faint râle is heard in the left lung. The pulse is 120. Ratio of respiration to pulse, three to five. The bowels have been moved by calomel, the resulting fæces being very offensive.

March 23. A faint râle exists, as at the last examination. Respiration 42, pulse 125,—ratio, one to three.

March 24. All symptoms are favorable,—neither respiration nor pulse being such as to call for special notice. Alvine evacuations are numerous, and remain very offensive.

March 26. The patient still coughs, but is well in other respects. Period of treatment one week.

Mrs. L., a young married woman, was taken with a cold and hoarseness February 16, 1887. At my visit on that day she had a very high fever and general pains throughout the body; the pulse-rate was 140. The treatment was two grains quinine sulphate every two hours, and two grains opium every four hours. She received the same treatment until February 19, when, on account of severe vomiting, she took potassium citrate, creasote-water, and hyoscyamus, but no opium. Her skin was constantly bathed in perspiration, yet there was no remission of the rapidity of the heart's beating. She has been using externally from the commencement a remedy of her own, a tar-plaster.

February 20, 10 A.M. The patient has had a very severe pain during the night, as also a constant cough. The pain occupies the entire area of the left chest from scapula to sternum, and from the axilla to the free border of the ribs. She lies upon the right side, with the left arm close to the affected region, and is unwilling to move either the body or the arm. Early in the morning she commenced to expectorate bloody mucus; the respirations reach 38 per minute, and the pulsations 124,—ratio 1 to 3.3. The skin is moist, the tongue coated, and the stomach quiet. A plaster of cantharides was so placed as to conform to the painful area, and the following medicines were prescribed,—viz., three grains of quinine every two hours, and three grains of opium every six hours.

February 21. The plaster has caused a perfect blister. The patient is free from pain; the skin is moist; the cough and expectoration moderate; the sputa less bloody. The rate of respiration is 22, and pulsation 102,—ratio 1 to 4.7.

February 22. There is a constant sweat, the tongue is cleaner, the expectoration nearly colorless, and there is little pain. The respirations are 20, and the pulsations 96,—ratio 1 to 4.8. She sleeps considerably.

February 25. Respiration 19, pulse 76.

February 26. Took leave, the patient having recovered in eleven days.

The two following cases illustrate most strikingly the necessity of blistering in the cure of some of the inflammations connected with the female reproductive organs.

Mrs. P. is a young married woman, with one child. About the middle of October last, when her menstrual flux had been absent for six weeks or over, at the close of a wearisome day's labor she was taken with hemorrhage from the genitals and a pain referred to the fore part of the thighs, near the knee. The day following the pain shifted to the hypogastric region. After a few days, a discharge having the characteristics of that following abortion succeeded. On the morning of October 30, two weeks from the first attack, she suffered extreme pain and tenderness in the uterine region, and, as she received no relief at the hands of the empiric who had hitherto attended her, I was called to take charge on the evening of that day. At 8.30 P.M. she had extreme pain and tenderness in the hypogastrium, as well as in the fundament, constituting a true tormina. She had also irritable bladder and painful micturition; there was great thirst and dryness of the mouth; the pulsation was small and very frequent,—138 per minute. I

prescribed opium and quinine in large doses: the former to be repeated every four hours, the latter every two hours. A plaster of cantharides was made to cover the entire tender surface. In about three hours I was recalled, as the pain was insupportable, and the other aspects of the disease were still the same. I administered hypodermically a half-grain of morphine acetate; and this, with the opium regularly administered, secured tranquillity for the night.

October 31, 10 A.M. The cerate has caused a thorough blister; the pain and tenderness are greatly relieved; the pulse remains about the same. Evening visit, 8 P.M.: the relief in the abdominal region continues, and the pulse has receded to 122 per minute.

November 1, 10 A.M. Mrs. P. has had an abundant sweat in the night, and the pulse has declined to 102. The quinine and opium were continued as demanded by the fever and pain. On November 2, at 10 A.M., the pulse was at 98; on November 3 it was at 88, a very great sweat having prevailed during the night. There was a tender spot in the left iliac region, to which was applied a blistering plaster three by five inches. On the day following the tenderness was relieved, and the case—one of uterine peritonitis—went on to a rapid recovery, my visits ceasing November 20.

Mrs. H. had what appeared to be an abortion on December 21, 1886, there being pain and hemorrhage from the genitals. On examination no portion of the secundines could be detected in the uterine neck, which was dilated so as easily to admit the finger. Suitable remedies were employed, and the flow seemed to be stanched. The patient, however, failed to do well. There was persistently coated tongue, poor appetite, various pains about the lower limbs, very slight tenderness and pain in the uterus by pressure, with little or no quickening of the pulse. She received various treatment,—quinine, salicylate of sodium, diuretics, and anodynes,—a very great amount of opium being necessary to insure anything like comfort, out of all proportion to the apparent disease. The local treatment consisted of poultices, fomentations, etc., over the uterus, and liniments, vinegar, and flannels to the limbs. By January 17 the pulse, which had been so moderate before, became, notwithstanding the free use of quinine, quite rapid, — 120 per minute. The tenderness, though not acute, was persistent, and there were voided occasional clots of blood. A blister was placed on the hypogastrium, the opium and quinine continued, and, as there was a great sense of weakness and nervousness, the compound fluid extract of cinchona and the fluid extract of cimicifuga were also given, in fifteen-minim doses each. At my next visit, January 18, the tenderness was absent for the first time during her illness, and the pulse had declined to 112. On the day following it receded to 104.

The further record of this case affords nothing other as illustrating the use of blisters, but is valuable as the history of a case in no respect too clear in its indications. During the two following weeks the pulse continued from 95—a very common figure—to 118, the highest. She was also troubled with a nausea and vomiting, particularly at night. By the middle of February the clots, which had been appearing occasionally, were succeeded by a free hemorrhage. Upon an examination by the speculum there was seen to be erosion of the os uteri, which was somewhat dilated and giving vent to blood and mucus. A solution of nitrate of silver (forty grains to the ounce of water) was applied to the whole internal surface of the uterus, which was in a state of involution, and about the os as well. She had been taking for the stomach creasote-water and acid phosphate, the latter of which was now replaced by the extract of ergot,—the prescription reading as follows:

℞ Ext. ergotæ, f℥j;*
Ext. cinchonæ fluid. co.,
Ext. cimicifugæ fluid., āā f℥ss;
Aq. creasoti, f℥ij;
Syrup., f℥ss. M.
S.—Dose, a drachm thrice daily.

She received weekly a topical application of the silver salt, and, continuing the medicines as above, was discharged cured March 15, 1887, after an illness of three months' duration.

CEDARVILLE, NEW JERSEY.

REPORT ON OPHTHALMOLOGY.

BY ALBERT G. HEYL, M.D.,
Ophthalmic Surgeon to the Episcopal Hospital.

(Continued from page 598.)

EYE-INJURY FROM LIGHTNING.

KNIES reports the following. A boy, æt. 10, was struck by lightning while standing at a window. He turned slowly several times round as on an axis, then fell backward to the floor and was unconscious two hours. He recovered consciousness slowly, moving arms and legs. Both eyelids were much swollen, and a great deal of lachrymation existed. Four days later the following was noted: right forehead and temple showed irregularly-shaped scars of

* Increased on March 1 to 3ij.

burns. These extended along the right sterno-cleido-mastoid and the right side of the body to the foot; incomplete ptosis and diffuse corneal clouding of each side; on each side the eyelashes were burned off; right lens showed broad cataractous stripes running from the equator towards the centre, and a large star-shaped post-polar cataract; fundus could not therefore be examined, but there was absolute amaurosis; left eye showed synechia posterior; beginning cataract in broad stripes; eye-ground normal; vision ½, not improved by glasses; on each side the eye-tension much diminished. Two months later the ptosis had disappeared, the corneæ free from clouding, the right lens completely cataractous, light-perception and projection normal. About five weeks later the right eye was atropined, when the lens was noted to be peculiarly round as if swollen. It was removed by simple linear extraction with great difficulty, with the resulting secondary cataract formation, but vision of C. F. at five metres.

Attention is directed to the following points:

1. The incomplete paralysis of the levator palpebræ, inducing ptosis. Why the frontalis muscle was not likewise paralyzed is not clear.

2. The temporary paralysis of the optic nerve may have been due to the direct injury to it from the electricity. Possibly, judging from a case of Laker's, capillary hemorrhage into the nerve would have been seen had the fundus been visible.

3. The formation of the cataract. This is explained as the result of a powerful contraction of the ciliary muscle induced by the lightning.

It is incidentally mentioned that the cataractous stripe of the left eye vanished completely.—*Graefe's Archives*, vol. xxxii.

EPISCLERAL FARADIZATION.

Eulenburg describes an instrument for this purpose consisting of a small platinum plate eight metres long, six metres broad, fastened to a shaft, and capable of being elevated by pressing on a button attached to a handle, and thus breaking the current at will. The instrument, after a previous instillation of cocaine, is applied to the desired spot, while the indifferent electrode may be placed over the sternum. In this way the eye-electrode has been allowed to remain one to two minutes without any injurious effect, even when induction-currents were applied strong enough to induce contraction of the orbicularis palpebrarum or even the frontalis and corrugator. The author was surprised to find, however, that in no case was there any contraction of the eye-muscles, the eyeball apparently remaining perfectly stationary; he explains this on physical grounds, the distinctively watery constitution of the ball diverting the current, and also, in the necessity of the case, the tendon of the muscle and not its belly being mainly reached by the current. As an exploratory method in eye-muscle paralysis there is not much to hope from the method, but in peripheral ophthalmoplegus it promises to be of value.—*Centralblatt f. Augenheilk.*, March, 1887.

[May not the cocaine instillations benumbing the scleral conjunctiva have had something to do with the failure of the eye-muscles to react?—H.]

AMBLYOPIA AFTER QUININE-INTOXICATION.

Patient, a woman, æt. 42, three weeks after a normal and easy confinement, was seized with violent fever, and for about ten minutes delirious: 15.0 (grs.?) quinine were given; three days later sudden amblyopia occurred; the fever continued about a week, and then a general debility ensued, the amblyopia still continuing. In the course of about a couple of weeks symptoms of melancholia developed, which led to her being placed in an asylum. At this time the patient could count fingers at a short distance. The main ophthalmoscopic change was great thinning of the vessels; color of the papilla normal. Under treatment with strychnine, iron, etc., the reason gradually improved, although the papillæ became very pale and the retinal vessels very narrow, the arteries being scarcely visible. Several months later the patient left the asylum well enough mentally to attend to her business, but with defective sight. Both pupils at this time reacted well to light; media clear; papillæ extremely pale; all the vessels extremely pale, especially the arteries; vision about ⅓, not improved by glasses; visual fields defective above and below. Again for some reason the dose of quinine was repeated, and amblyopia again occurred, which for the next seven weeks increased somewhat, then slowly improved, although it was not entirely relieved.—*Klinische Monatsblätter*, February, 1887: reported by Mellinger.

[It will hardly be doubted, after careful examination of this case, that the quinine was only a secondary factor in causing the amblyopia. The points in the case may be summed up thus:

1. Uterine disturbance of some kind after confinement, with consequent derangement of the cerebral circulation.

2. The dose of quinine which aggravated this derangement inducing not only amblyopia, but also the melancholia.

From some experience in the examination of the eyes of cases of melancholia, the reviewer is satisfied that a certain set at least of such cases are accompanied by changes indicating circulatory disturbance in the brain, and probably in the cortex; and, while not prepared to say that these cases of so-called melancholia are simply a species of congestion of the brain, the latter is nevertheless a very important factor. The practical point about the above case is that quinine, at least in decided doses, should be used with care when the uterine vessels are likely to be in an abnormal condition.—H.]

TRANSLATIONS.

TETANUS FOLLOWING THE OPERATION FOR HYDROCELE.—Dr. Rafael Bueno (Havana) reports the following case. Joseph B. V., native of Oviedo, aged 22, single, waiter in hotel, entered La Beneficia Hospital on the 14th of March, 1887, to be operated upon for hydrocele on right side of two years' standing. On the morning of the 15th the operation was performed, a new nickel-plated Galante trocar introduced, which had been previously disinfected in a five-per-cent. phenic-acid solution; a two-per-cent. phenic-acid ointment was also used. The liquid removed amounted to two hundred and fifty grammes. The injected solution, which was a five-per-cent. carbolized solution, came out the color of milk. When the operation had been completed, the patient was attacked with vertigo and mucous vomiting; they quickly disappeared after he was put in bed and given a small glass of sherry wine. He passed the remainder of the day comfortably; the slight pain after the operation disappeared; he partook of broth twice during the day.

For a week after the operation the case progressed satisfactorily and appeared to be rapidly convalescing. On March 22 the invalid breakfasted well, was communicative and lively, though not yet out of the bed. Some difficulty of deglutition became evident at nightfall, and pain was experienced in the ligamentum nuchæ and dorsal region, without any contracture.

March 23, at 3 A.M. Tonic convulsions of the muscles of the back part of the dorsal region; opisthotonos, trismus, dysphagia very noticeable; pulse 108, temperature normal; copious perspiration. Two hypodermic injections of morphine, one and a half centigrammes each, with one hour interval, caused a temporary abatement of symptoms.

At 7 A.M. Trismus, dysphagia, opisthotonos, gastralgia; slight contracture of the muscles of the abdominal walls. Chloral, gr. xxx, and morphine, gr. $\frac{1}{15}$, were given each hour until relief was experienced.

Later, on the 23d, the attacks were repeated at the end of each half-hour; peaceful slumber betweentimes. The muscular contracture had now reached the thoracic cavity. Pulse 108 during seizures, temperature normal; abundant perspiration; urine normal.

At 6 P.M. he vomited a spoonful of chloral, which was taken by great effort, producing an attack, during which seizure the tongue was cut through by the teeth. Respiration was now performed with great difficulty; a cyanotic appearance of the face was noticeable. Discontinued the administration of chloral by the mouth, and ordered three enemata, two grammes each, to be administered during the night, at intervals of two and a half hours.

March 24. The seizures had become more frequent and intense. The respiration was now impeded, the skin assumed a violet hue, the pulse was irregular; enemas of chloral, one gramme each; friction and massage to the thorax and upper part of abdomen. Death at 11.30 A.M., of asphyxia. Removed bandage, and found the little wound wholly cicatrized, without a vestige of suppuration.

The following reflections were made by the reporter:

1. Operated for hydrocele on 15th of March in the morning; used a new trocar (Galante), which had been thoroughly disinfected by a five-per-cent. phenic-acid solution.

2. Nothing remarkable about the oper-

ation, nor in the progress of the inflammation.

3. The man had not left his bed for a single day.

4. Tetanus made its appearance at nightfall on the 22d, and death from asphyxia occurred at 11.30 A.M. on the 24th.

5. He lived in front of a stable, near a car-depot; and, from sources believed to be authentic, there has not been a case of tetanus in this location for three years.

6. La Beneficia has not had a case in fifteen months until this one. He left the hospital to go to festival and work about the tents; this was in December, 1885.

7. There appears to be no attributable cause for the death in this particular case other than the cold humidity which prevailed at that time, and, above all, the great difference of temperature between the night and the day.

8. If tetanus be due to a microbe, it appears to resist a very strong solution of phenic acid (five per cent.), as is shown by this case. — *Crónica Médico-Quirúrgica de la Habana.*

Antipyrin, Antifebrin, and Thallin. —At the Second Congress of Russian Physicians, held at Moscow, Dr. Anserow discussed the comparative value of some new antipyretics: antifebrin, antipyrin, and thallin. All three appear to act upon the vaso-dilators. The peripheral vessels dilate under their influence, and the temperature of the surface rises,—thus equalizing the temperature of the internal organs and the surface, and permitting heat to escape by radiation. The following conclusions are given:

1. Antipyrin, antifebrin, and thallin all act upon the thermo-regulatory apparatus, and produce their effect by dilating the peripheral vessels and augmenting the circulation in these vessels.

2. They act by the intermediary of the central nervous system.

3. They act not only upon the temperature, but also upon the nervous system, in a manner analogous to hydrotherapy.

4. Antipyrin and antifebrin alone deserve to be employed.—*Bull. Gén. de Thérapeutique.*

Liquid Vaseline or Fluid Petrolatum as a Solvent for Cocaine.—Bignon (*Bull. Gén. de Thérapeutique*) advocates a two-per-cent. solution of cocaine in liquid vaseline either as a local application to the eye or for hypodermic use. One drop of this solution will produce complete anæsthesia and dilate the pupil,—dilatation commencing in from thirty-five to forty minutes and disappearing in five or six hours. The accommodation is unaffected even by twice this quantity (gtt. ij of a two-per-cent. solution). A drachm of this may be injected hypodermically as a local anæsthetic for surgical operations, but ordinarily much less will answer if the solution be subsequently allowed to come in contact with the recent incisions during the progress of the operation. The author recommends the use of the alkaloid in this solution in preference to any of its salts, since the latter are difficult to keep and are uncertain in composition.

Antipyrin as an Analgesic.—Germain Sée calls attention to a new and important action of antipyrin. A watery solution containing fifteen grains to the spoonful may be administered at intervals of from one to four hours, giving from three to six grammes (forty-five to ninety grains) at a dose, in ice-water. Given in this way, the pains are relieved without any unpleasant result, especially upon the heart or great vessels. The remedy acts especially upon the spinal cord.—*Revue de Thérapeutique Méd.-Chir.*

Treatment of Chronic Bronchitis in Children.—H. Roger recommends the administration, morning and evening, of one or two granules of sodium arseniate (gr. $\frac{1}{64}$) given in a cup of milk. Before each meal a dessertspoonful of the syrup of the iodide of starch, containing one grain of iodide of potassium in two drachms of the solution. At the meal sixty grammes of raw meat-pulp beaten up with one or two grammes of pulverized calcium phosphate are to be given with other food.—*Revue de Thérapeutique Méd.-Chir.*

Expedient in Obstinate Epistaxis. —Verneuil recommends a blister applied over the liver in the treatment of rebellious epistaxis unaccompanied by fever. He concludes that "(1) latent and still benign diseases of the liver may cause and keep up obstinate epistaxis; (2) the revulsion obtained by the aid of a large blister placed on the right hypochondriac region appears to be the best means of curing hemorrhages of this kind."—*Revue de Thérapeutique Médico-Chirurgicale.*

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 25, 1887.

EDITORIAL.

THE AMERICAN MEDICAL ASSOCIATION.

TWO things were patent to any intelligent observer in attendance upon the Chicago meeting. The first was the magnificent possibilities of such a large and thoroughly representative body of American physicians; the second, the hasty, inefficient, and irregular methods of conducting the work of the general sessions. As at present managed, it appears to be simply an impossibility to ascertain definitely the sense of the Association upon any debatable question. There seems to be no doubt as to the wisdom of the recommendation of the special Committee with regard to the necessity of adopting such a change in the method of selecting the Nominating Committee as will enable it to perform its functions, important as they are, with deliberation and due formality. As an amendment to the Constitution, this will come up for discussion next year at Cincinnati. There seemed to be general regret that it could not go into force at once.

In order that the next meeting shall be distinguished from its immediate predecessors by greater dignity and decorum, the following suggestions are, with due respect, offered to the consideration of the officers, and especially to the Entertainment Committee. In the first place, since all members must pay their dues whether they attend the session or not, let the registration be conducted through the mails prior to the meeting, and the present difficulty in getting registered will be at once avoided. If the lists of delegates were to be sent to the Chairman of the Committee of Arrangements one month before the meeting, he could send by return mail the badge of membership which would enable the wearer to participate in the business of the executive session, and during the course of such executive session no one should be admitted to the floor of the house who is not entitled to be heard or have his vote counted. After the executive session is over, the doors may be thrown open to all who wish to hear the addresses or public discussions. The credentials having been sent in advance, the labor of the Committee on Entertainment will be materially lightened, and invitations to entertainments can be delivered through the post-office, as at present.

A properly-organized Council, in permanent session, would greatly strengthen the Association. There is no need of holding formal meetings, however, with our present telegraph and postal facilities: all its functions can be performed by correspondence or through the Journal as intermediary. It is also a question worth considering whether the provision which prevents permanent members from voting is compatible with the best interests of the Association. In many County Medical Societies the delegates are chosen not because they are the representative members, but because they are new and have never been sent as delegates before. It is true that in this way new members are added every year to the national Association; but it does not seem the height of wisdom to intrust the welfare of the organization to such inexperienced hands, who may fall an easy prey to the medical politician.

Finally, if at the time of registration each delegate were to select one Section with which he desired to connect himself as a member, it would prove advantageous in several ways, and particularly in the election of officers, or in deciding other questions which may call for a vote of the Sections.

THE SPHERE OF THE GENERAL PRACTITIONER.

IN his opening address as President of the recent German Congress of Internal Medicine at Wiesbaden, Professor Leyden discussed in a dignified manner the relations of specialism and general medicine. The scientific specialist, said Leyden in effect, has done much for the advancement of our knowledge of local processes, both physiological and pathological, and of local measures of treatment. The present age is scientific and experimental, and medicine has partaken of the general tendency and has become an experimental science. But the scientific and experimental work in the laboratory, upon which so much weight is placed, and which has unquestionably contributed to exactness in our knowledge, fails to answer the demands of the present, however much it may promise for the future. The living present has claims which the physician must not overlook in his zeal for mathematical exactness in diagnosis and mechanical treatment. It is time to remind the practitioners of our day that the inexhaustible source of all knowledge and progress in medical art is observation at the bedside of the patient. Experiment is one-sided; complete knowledge of disease can be gained only by studying cases.

In the multiplicity of specialties medicine as a whole is in danger of being lost. Internal medicine has itself become in a measure a specialty. The human individual is hardly any longer considered as a concrete whole, as a man. He is an aggregate of organs and cells. Every organ becomes the object of special study and special knowledge. Local examination, local diagnosis, local treatment, is the order of the day.

Against this misleading view Leyden enters a protest. The true function of medical art is not to treat diseases, but to treat persons who are sick. These stricken individuals must be aided in their struggle for existence. This is the duty of the general practitioner. In order to do this intelligently, he must not only be conversant with the nature of the disease-process in certain organs,—for which knowledge he is indebted to the specialist,—but he must also understand and be able to appreciate the influence of the morbid process upon the sick individual. To the cry that general medicine must become more surgical, Leyden returns the answer that the specialties must again become more medical, and thus restore the unity and integrity of general medicine.

"Old truths and old facts are liable to be forgotten," says Leyden, in closing his eloquent address, "and it is not inappropriate to recall them on suitable occasions."

In this paraphrase of the words of one of the leaders of German medical thought we observe a departure from the too exclusively local and experimental methods of the medicine of Germany and Austria during the last thirty years. There is a tendency to return to more philosophical views, such as have dominated French and English medical doctrines, and which have had so large a following in this country.

It is this tendency to which we have striven to give effect in the columns of this journal. While recognizing the importance of specialists and special study, we have always insisted upon the paramount necessity of the combining, unifying, and vivifying influence of the knowledge derived from observation at the sick-bed. The appreciation of the grand truth that "all medicine consists in observation" will restore to general medicine and the general practitioner the pre-eminence they deserve. This will likewise react favorably upon specialism, and the specialist will be, in the words of the lamented Hodgen, "a physician and something more," instead of, as is now too often the case, "something less than a physician."

THE ILLNESS OF THE CROWN PRINCE OF GERMANY.

AS the medical journals have taken up the malady of the Crown Prince of Germany for discussion, we give our readers the following statement from a leading physician of London, who is in a position to be thoroughly acquainted with the facts. It is not a "cablegram," but an extract from a private letter to the Editor:

"The Crown Prince had measles a year or more ago: he caught cold last winter and has been hoarse since. Gerhardt found a small growth on the left vocal cord in March, and the electro-cautery was used with temporary benefit. The hoarseness, however, grew worse and the growth larger while the Crown Prince was at Ems. Bergman, Wegner, and Tobold saw him when he returned to Berlin, and advised thyrotomy. Everything was arranged for the operation, and it was the intention to perform thyrotomy and to be guided by the appearances found, and, if necessary, to perform resection of one-half the larynx. The Crown Princess, however, had been in communication with the Queen, who sent over Dr. Morell Mackenzie. He saw the growth, and stated that he could remove a portion for examination. This he did with intra-laryngeal forceps, tearing away a portion of the vocal cord along with the scrap of growth. The greater part of course remains, the whole having been the size of a split pea, and lying immediately on the under surface of the left vocal cord. Virchow thus had a portion of growth involving its whole thickness, and after examination he said that it was not malignant, and he ought to know, though the general opinion seems to be that the prognosis is very bad."

THE ASSOCIATION OF AMERICAN PHYSICIANS held its Second Annual Meeting at Washington on the 2d and 3d instant. Our report of its proceedings has been forced to lie over until the next issue.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE General Medical Council has held another session, the second this year. Sir Henry Acland, who has been its president for thirteen years, retired, and was succeeded by Mr. John Marshall, who a few years ago resigned the chair of Surgery at University College, London. I have already in previous letters mentioned the controversy which has raged all through the past winter anent the Apothecaries' Society of London. The act of Parliament passed last July renders it obligatory upon every student to pass an examination in medicine, surgery, and midwifery before obtaining a license to practise. The Apothecaries' Society had no power to examine in surgery, and consequently, unless the difficulty were overcome in some way, its examinations would cease to have any value. The Society accordingly at first applied to the College of Physicians and Surgeons to admit it to the Conjoint Board; this being refused, it next applied to the General Medical Council to appoint examiners in surgery for it: this the Council did, after discussing the question and a great many side-issues for four days. The curious result flows from this that the despised license of the Apothecaries' Society becomes in a certain sense a state license, because part of its examination will be conducted by examiners appointed by the General Medical Council, which is in reality a Committee of the Privy Council. The licentiates will not be slow to take advantage of this.

The death of Dr. Wilson Fox, Holme Professor of Clinical Medicine in University College, took place on May 3, after a few days' illness. Dr. Fox was a power in the profession by reason not only of the important appointments which he held, but also on account of his upright and generous character: a man sensitive in the point of honor, enthusiastic in every piece of work to which he put his hand, he earned the affection and esteem of colleagues, pupils, and patients by the singular charm of his sympathetic manner and the perfect sincerity of his conduct. Dr. Fox was educated at University College, and became Professor of Pathology there in succession to Sir William Jenner in 1861. For the last twenty years he has been the Professor of Clinical Medicine, and in this capacity every student has passed through his hands. He was a painstaking teacher, who left no point which could elucidate his cases untouched; the care which he taught his pupils to bestow on the smaller details which contribute so much to a patient's comfort was one of the most valuable lessons they learned from him. In early life he gave a great deal of attention to the study of tuberculosis: the view which he consistently held, when it was far from popular,

was that tuberculosis was a special pathological process, to be sharply distinguished from chronic inflammation. An erroneous interpretation of certain experiments on animals, however, led him to believe that the process was not specific: to this is due the non-appearance of his great work on phthisis, for which he had for many years been making preparations. Dr. Fox was a physician-in-ordinary to the queen, and was in the enjoyment of a very large consulting practice as a physician, and, if he had survived, the very highest honors which the profession in England has to give would undoubtedly have been his.

The close resemblance to be traced between certain forms of sarcoma and chronic inflammation has struck many observers, and it has frequently been suggested that some etiological relationship must underlie this anatomical and clinical similarity. A striking instance is afforded by the diffuse sarcomata of the spinal pia mater, of which a few cases are on record. Dr. W. Pasteur recently reported to the Pathological Society two additional examples of this curious disease. The symptoms resemble those produced by chronic spinal meningitis, and in the only case of the kind which I have seen this diagnosis was made by a very eminent neuropathologist: after death the spinal cord is found to be embedded in a mass of sarcomatous tissue which extends the whole length, and completely fills up the space between the bony canal and the cord. The nervous tissue shows no structural changes, except where here and there it is invaded by the new growth; the naked-eye appearances are of course very different from those produced by chronic inflammation, but the microscopical elements have a great resemblance, the fundamental difference being that in the sarcomata there is no tendency towards organization or retrogression. At the last meeting of the same Society a closely-related question was raised by Messrs. Shattock and Ballance, who reported the results of some experiments made with malignant tumors to ascertain whether any vegetable parasites were present. In every case where sufficient precautions were taken to exclude contamination by material on the surface of the growth exposed to the air, where of course micro-organisms swarm, the tubes inoculated with the portions of tumor remained quite sterile. The experimenters, however, were by no means inclined to abandon the parasitic theory of the origin of malignant growths on account of these negative results: their view appeared to be that the parasite was probably not surrounded by proper conditions for culture or had become devitalized.

Headache is one of those smaller evils which sometimes make existence almost intolerable, and yet it must be confessed that remarkably little help in its treatment is to be derived from a perusal of text-books or encyclopædias: that it is generally symptomatic will be universally admitted, but ignorance of ultimate causes is still so complete for a large proportion of cases that a paper communicated to the Royal Medical and Chirurgical Society by Dr. Alexander Haig will be read with interest. He seems to have well worked out the relation of a certain form of headache, which may be called the gouty headache, to the excretion of uric acid. The headache could be brought on by eating meat and cheese, and he found that there was retention of uric acid before the headache, excessive excretion during the headache, and diminished excretion after the headache. Whether there is merely retention or also excessive formation would be an interesting point to determine, but this could not be ascertained. The amount secreted during the headache was greatly in excess, and more than accounted for the retention which occurred during the headache, but the amount excreted after the headache was diminished, and the diminution before and after just balanced the excess during the headache. Dr. Haig thinks that there is temporary excessive formation, and that this accounts for the good effects of salicylate of soda, which diminishes the formation of uric acid; a meal also has a good effect by increasing the alkalescence of the blood. This last observation appears to be of special interest, because it appears to be a general custom to attribute headaches which are relieved by food to "cerebral exhaustion" or "neurasthenia."

Very conflicting accounts are to be heard and read of the value of Dr. Bergeon's treatment of phthisis by the injection of sulphuretted hydrogen into the rectum, and this although the process has not been very extensively used. One physician will say that it is the greatest advance ever made in pulmonary therapeutics, another that it does no good, and a third that the slight amount of benefit does not compensate for the disagreeableness of the operation. The eccentricity of the method, so to say, repels many, but the theory upon which it is founded is ingenious, and nobody seems to be inclined to dispute the main fact upon which it rests,—namely, that sulphuretted hydrogen and carbonic acid in the intestines are carried away by the portal circulation and immediately excreted by the lungs.

At the last meeting of the Ophthalmological Society, Mr. Lang advocated the insertion of an artificial globe into Tenon's capsule, after excising the eye, as a substitute for Dr. Miles's operation of evisceration, with insertion of an artificial vitreous. The operation was originally suggested by Mr. Adams Frost at the Brighton meeting of the British Medical Association last year. The globe is enucleated, the four recti are then held apart, a glass sphere is introduced into Tenon's capsule, and the tendons, capsule, and conjunctiva are united over it. Mr. Lang reported that suppuration had not occurred in any of the six-

teen cases in which he had performed the operation: this he attributed to the antiseptic precautions used,—that is to say, irrigation before and after excision and at the end of the operation.

Dr. Lewers has reported to the Obstetrical Society the condition of the pelvic organs in one hundred cases, as nearly as possible consecutive, of women whose bodies were examined after death at the London Hospital. Disease of the Fallopian tubes, restricting the expression to pyosalpinx, hæmatosalpinx, and hydrosalpinx, was met with in seventeen out of the one hundred cases examined. Dr. Galatin stated that the proportion was much smaller at Guy's Hospital. It had been found there that in three hundred and two cases there were of chronic inflammatory disease about the tubes nine per cent., distention of tubes four per cent., and that death could be indirectly traced to pelvic inflammation in about two or three per cent. It ought to be added that fourteen out of the seventeen cases observed by Dr. Lewers were women over forty years of age, whereas the majority of the women upon whom Mr. Lawson Tait has operated have been twenty-seven or thirty years of age.

The medical staff at Guy's Hospital has been depleted so much during the last few years that it became necessary for the Governors to take some decisive step to bring it up to its full strength. Vacancies for two or three assistant-physicians were accordingly declared, and physicians unconnected with Guy's were invited to apply; no less than twelve applied, in addition to two physicians connected with Guy's; both of these latter—namely, Dr. G. N. Pitt, the Medical Registrar, and Dr. L. C. Wooldridge, the teacher of practical physiology—were appointed, and one outsider was chosen; the fortunate candidate was Mr. E. C. Perry, who had recently taken his degree in medicine at Cambridge, after studying at the London Hospital; he was selected probably because he was Senior Classic in 1880.

At St. Thomas's Hospital also two appointments have been made, both Dr. W. B. Hadden and Dr. Theodore Dyke Acland having been appointed assistant-physicians; both are already well known, the first as a neurologist and the second chiefly for his bacteriological researches.

Owing to the death of Dr. Wilson Fox, Sir William Gull becomes physician-in-ordinary to the queen, and Dr. James Reid, who has been for some years the resident medical attendant on the queen, has been appointed a physician-extraordinary.

DAWSON WILLIAMS.

THE Legislature of Pennsylvania has given twenty-five thousand dollars to the Medico-Chirurgical Hospital of Philadelphia.

BOSTON.

THE Massachusetts Medical Society held its One Hundred and Sixth Annual Meeting in Boston, June 7 and 8, with an attendance and interest fully up to the average. The total membership is now sixteen hundred and sixty-one, ninety-five new members having joined in the last year, and twenty-six having died. As usual, the Massachusetts General and Boston City Hospitals were thrown open to visitors, and operations were performed in the amphitheatre. At the latter hospital there were several capital operations. The programme of the meeting on Tuesday, the 7th, included papers on "Tumors of the Bladder," by Dr. George W. Davis, of Holyoke; "Cases of Burns, with Special Reference to Complications, Sequelæ, and Treatment," by Dr. J. E. Cleaves, of Medford; "Laparotomy for Pus in the Abdominal Cavity, and for Peritonitis," by Dr. John C. Irish, of Lowell; "Fracture of the Spine: its Immediate Treatment by Rectification of the Deformity and Fixation by Plaster-of-Paris Jacket," by Dr. H. L. Burrell, of Boston; "Observations on the Puerperal Pelvic Ligaments," by Dr. S. W. Driver, of Cambridge; "The Relation of Tea-Drinking to Disorders of the Nervous System," by Dr. W. N. Bullard, of Boston; "Pulmonary Tuberculosis as a Sequel to Ordinary Pleurisy with Effusion," by Dr. H. F. Vickery, of Boston; and "The Surgical Treatment of Empyema," by Dr. M. H. Richardson, of Boston. At the meeting on Wednesday other papers were read, on "A Contribution to the Study of the Etiology of the Summer Diarrhœa of Infants," by Dr. H. C. Haven, of Boston; "Sepsis and Antisepsis in Summer Diarrhœa," by Dr. S. A. Potter, of Roxbury; "Training Nurses," by Dr. Alfred Worcester, of Waltham; and "The Value of Public Health Measures to the State," by Dr. S. W. Abbott, Secretary of the Massachusetts State Board of Health.

The paper of Dr. Abbott was one of marked interest, being based largely on data gathered and compiled by the writer in his official capacity. The decrease in the mortality from the so-called preventible diseases in the years since sanitary science has been practised in the cities and towns of this State was strikingly shown in the case of typhoid fever, cholera, and smallpox, but not in diphtheria, which seems on the whole to be upon the increase, as are also developmental diseases like cancer and some local affections. The increase of the average age of the population at death during the last decade was shown by charts to be actual, but not great, for every class in the community.

At the conclusion of Dr. Abbott's paper a discussion was opened by Dr. Henry I. Bowditch, one of the original members of our State Health Board, who spoke with great earnestness on the subject, particularly with reference to the duty of the State towards the

physical training of the pupils in our schools. He deplored the present lack of attention to this important subject on the part of educators. The military drill, the only attempt towards meeting this requirement in Boston and many other cities, was characterized as inadequate, if not positively harmful. Dr. Bowditch had lately seen a West Point cadet with one shoulder lower than the other, and it is well known that there the most careful gymnastic training is given to overcome the defects and dangers of this one-sided and at best cramped exercise.

Other speakers followed in the same strain. One had seen two deaths from phthisis in young women who had gone to teach in a school-house which, after proving the source of much sickness, was found to have had all the time some eighteen inches of water in its cellar.

A committee of three was appointed to investigate the general subject of physical training in public schools, with special reference to what has been successfully done elsewhere in this matter, and to report at a future meeting a plan feasible and adapted to the needs of children of both sexes. The recommendations of this committee are, it is understood, to be laid before the State Board of Education, with whatever of influence the weight of the Society may bring to bear.

The Annual Address was delivered by Dr. George J. Townsend, of Natick, on "The Massachusetts Medical Society: its Relations to Medical Progress and to the Community in which we practise." It showed the true function of a medical society, and vindicated the profession from the charge of sectarianism in medicine, showing that the regular physician was not a "-path" of any kind, and did not belong to any "school," least of all to an "old school."

The members of the Society then sat down to their annual dinner, which was presided over by Dr. William L. Richardson, of the Harvard Medical School. Speeches were made by the President of the Society, Dr. Thomas H. Gage, of Worcester, His Excellency Governor Ames, Hon. George M. Stearns, United States District Attorney, Rev. Brooke Hereford, Professor J. P. Reynolds, Colonel T. W. Higginson, Roger Wolcott, on behalf of the Trustees of the Massachusetts General Hospital, Mr. Hodgson, of the English Society for Psychical Research, and others.

Dr. J. S. Billings, of Washington, delivered a course of lectures on "The History of Medicine" before the students of the Harvard Medical School during the spring. The course was attended by many physicians as well as students, and was found to be of much interest. Dr. Billings also gave two lectures while here to the students of the Massachusetts Institute of Technology. It is reported that the same gentleman may be heard here again next winter in a course before the Lowell Institute, which is one of our most valuable institutions, having an income sufficient to pay liberally for several lecture-courses during each winter from men the most competent in the world to speak on their several departments of knowledge.

The Washingtonian Home, a most valuable institution for the care and cure of inebriety, under the charge of Dr. Albert Day, has just made its report for the current year, showing three hundred and seventy-nine patients treated, at a cost of $12,240.07. This sum was met in great part by payments from the patients, many of whom are men in fair standing socially and financially, who, finding themselves in danger, voluntarily put themselves where for a time they will be removed from temptation, or where they can be sure of good treatment and secrecy while recovering from the effects of a debauch. There were during the year ninety-nine cases of delirium tremens, with only one death. About three-fifths of the patients were married men, and nearly all were residents of this State.

C. F. W.

THE GERMAN CONGRESS OF PHYSICIANS.

(Continued from page 605.)

PROFESSOR LITTEN, of Berlin, contributed a paper on the subject of the *Connection between Disease of the Stomach and Change of Position of Right Kidney.*

The fact that distention of the stomach (ectasia) occurs in connection with dislocation of the kidneys, the so-called wandering kidneys, is not new. The only question is if this stands in a causative relation with the other. The change of position of the kidneys is dependent on mechanical causes; in women it is often occasioned by too tight lacing. The speaker then related such cases of dislocation as had not yet appeared in literature. He has made the observation that the ectasia of the stomach occurs frequently in connection with dislocation of the kidneys in laborers, masons, railroad and street navvies, whose mid-day meals often consist of indigestible food, are eaten in a very short time, —in fact, devoured without form. He also found two women among his patients who were able to take their meals quietly. Out of twenty-six cases of stomach-distention observed by him, in seventeen dislocation of the kidney was present; this brought him to the belief that the stomach-distention is the cause of the dislocation of the kidneys. In the other cases the renal arteries are probably too short, so that on this account the kidney cannot escape. The greater or less movability of the kidneys depends upon the more or less tightness of the arteries. In closing, the speaker went into detail concerning

his findings in post-mortems of such persons as had distention of the stomach with wandering kidneys.

Professor Nothnagel, of Vienna, opened the discussion. He was acquainted with the frequent coincidence between distention of the stomach and dislocation of the kidney, but disputed, however, the causative connection. He had in a period of three months found sixteen such cases. The stomach-distention in many instances was primary, the dislocation of the kidney secondary. He did not know, however, if stomach-insufficiency was able to cause movements of the kidney. The greater number of dislocations occur in broken-down, nervous women. The speaker would like to point out the first case where dislocation occurred, then distention. He reported a dislocation of the kidney of a remarkably high degree. He then dealt with the treatment of this disease. He placed lean persons first on the malt cure, then placed a cushion over the kidney to hold it in position, and a waist over the cushion which covered the whole body.

The Cure of Neuralgia by means of Cataphoresis.—Professor Adamkiewicz, of Cracow, read on this subject. The reader had already in a former article expressed the opinion that by means of an instrument devised by himself, and called "diffusion electrode," chloroform could be put through the skin of a man until he was thrown into the deepest cataphoresis. He then reported the results obtained by this proceeding in the treatment of neuralgia. The diffusion electrode should be connected with the positive pole of a constant battery, and without current placed upon the painful part. Now the current should be closed, and gradually increased to seven M.a. It should be held at this height for two minutes, then slowly brought down to nothing. From this kind of an application the speaker had never seen any evil consequences. He had never observed the formation of eschars, but had found that cataphoresis cured the neuralgia in all his cases, and that the cure followed more promptly the more recent the case. The nerves having a superficial course he found could be cured much easier when the conditions were favorable. Four, indeed one sitting may be enough to completely remove the complaint. In chronic neuralgia the cataphoresis cure shortens the duration of the attack, weakens its intensity, and can for a longer or shorter time bring it under control. Those neuralgias which depend on a lesion which cannot be reached by the cataphoresis are very unfavorable for its definite action.

Professor W. Lowenthal, of Lausanne, and Docent Rumpt, of Bonn, took part in the discussion. The last made a few objections, but was not prepared to change the results of the essayist's exact investigations and good observations.

The Etiology of Typhus.—Professor A. Fraenkel, of Berlin, made an address on this subject. This was discussed for a short period with considerable vigor. The discussion was concerning the infectiousness of the disease.

Professor Finkler, of Bonn, read a paper on *Observations on the Mode of Contagion and Treatment of Typhus Abdominalis* (*Typhoid*).

Among the purely contagious diseases are smallpox, scarlet fever, and diphtheria. A pure miasmatic disease is represented by malaria. Between these two we now place a third class, termed contagio miasmatica, to which we refer cholera and typhus abdominalis. It is partly believed that typhoid is not carried directly, but the germ coming from a diseased person attains a certain ripeness in the soil, then is able to generate the disease in another person. The knowledge of the quality of bacteria, and especially of those which would seem to be the generators of typhoid, goes to show that this indirect spreading does occur. It appears that this is the rule, and direct infection is entirely denied by many. Recent observations prove the infection is carried by many different kinds of vehicles. An excellent example is the epidemic in Mayence in 1884, which was undoubtedly carried by artificial mineral water (according to Dr. Helwig); also an epidemic in Cologne which was carried by means of milk from a certain infected dairy; also the epidemic in Triberg, Black Forest, from the water of a certain brook. All these epidemics are proofs of this kind of contagion, and it has been very difficult to bring proofs of a direct contagion. Again, it is true that different epidemics possess different forms of contagiousness. In 1885–86, a severe epidemic took place in Bonn. A woman went to Eisel and attended her children who were ill with typhoid. After their recovery she returned to Dollendorf on the Rhine, and fell ill with the disease herself. She gave it to the woman who attended her, and so on, until in nine months fifty cases occurred among the fifteen hundred inhabitants of the town. The spreading did not seem to take place by means of the water which flowed through the village, but through the mingling of people together. Three patients from Dollendorf were taken to the Klinik at Bonn, and started an epidemic there. Here the infection was quite direct, partly through the washing (one out of three washerwomen took the disease). On the other side, the sisters, by taking a child ill with typhoid from a damp house to Königswinter, carried an epidemic there into the hospital among the nurses and sisters, which, however, was soon over, but broke out again with great severity eight months later from the opening of a dung-hill into which mattresses, etc., from the patients' beds had been thrown. The germ by remaining in the soil can take on virulence and hold its life for a long time. Typhoid is not confined to certain parts of the earth; it can be carried into a city like Wiesbaden, otherwise

so favored as to health, and disturb this security. From numerous examples we know that if the nest in which the germs are resting is destroyed the epidemic will be cut off for all time; and from this fact it must be believed that there is a difference between the medium which spreads the disease and the source of infection.

Professor Fleischer, of Erlangen, gave experimental contributions on the pathology of the kidneys. They consisted of numerous experiments on a dog.

Dr. Kuhne, of Wiesbaden, read a treatise on the appearance of the spiro-æchten form of the comma bacillus of Koch in the tissue of the intestine in cases of cholera, with demonstrations of different fluorescent preparations. The speaker had examined a great many specimens from the epidemics of Paris and Palermo when he accidentally came upon this variety. After discussing the comma bacillus *in extenso*, he closed by recommending his method of coloring to find the bacillus in the tissue. He then gave different methods of his own to bring to view the bacillus in the internal organs in typhus, lepra molleus, etc.

Dr. Fränkel, of Dornheim, read on *The Permanent Inhalation of Fresh Air*, a treatise on the prophylaxis and therapy of lung-affections.

Professor Von Moring, of Strasburg, read on diabetes mellitus, on which disease he is a well known authority. He related how he had given a dog diabetes mellitus by means of phloridizine, and gave some excellent observations, which he was well able to make.

Professor Leube, of Würzburg, thanked the reader heartily for his most excellent paper, and hoped the dark subject of diabetes mellitus would now be brighter.

Dr. Cahn, of Strasburg, spoke on the acids in carcinomatous stomachs. This was followed by an earnest discussion, taken part in by Professor Riegel, of Giessen, Professor Fleischer, of Erlangen, Professor Von Noorden, of Giessen, Professor Von Mering, of Strasburg, and Dr. Stuckel, of Cologne.

Professor Leyden, from the chair, asked for themes for the next Congress, and gave the information that Professor Fürbringer, of Berlin, would offer a paper on the subject of the treatment of abdominal typhus. Professor Binz, of Bonn, would read on the subject The Application of the Spiritus Vini in Therapeutics. The secretary, Dr. Emil Pfeiffer, of Wiesbaden, read the reports of the various committees, saying that the executive committee had chosen Wiesbaden as the place of the next meeting. The number of members at the last meeting was two hundred and nine, died seven, leaving two hundred and two at the beginning of this Congress. Twenty-three new members were added, making two hundred and twenty-four, an increase of fifteen. The number of these present at the Congress last year was two hundred and thirty-four, this year two hundred and forty-nine.

Professor Franz Liebenstein read on the subject Muscular Exercise or Quiet for Heart-Disease. After enforcing that proverb of Professor Hoffman's, forbearance and exercise, the reporter said that the majority of the clinicians and physicians held out firmly against a more active treatment of chronic heart-disease through exercise of the heart-muscles, and insisted that above all things all acute cases, also those where an over-distention of the heart had occurred, must be handled with care. Quiet does not, however, improve the chances of the patient, while a reasonable nourishment combined with exercise properly carried out causes a strengthening of the heart-muscles. In all chronic cases we should change from quiet and care to the endeavor to strengthen the heart-muscles by exercise. From his rich experience the reporter felt sure strong yet quiet movements, with quiet exhalations of air, work towards strengthening and slowing the activity of the heart, as has already been made known by Schott, of Rauheim. In cases where the kind of failure is that of performing the work required in complete contraction, the distended ventricle is never entirely emptied, and the heart-muscles become weary and in the end incapable of performing their duty. Then by means of quiet but energetic muscular exercise the heart is strengthened, stirred up to effectual contraction, and at the same time the diastole grows in consequence of the slowing of the pulse. The increase of the arterial blood-pressure acts on the vagus centre, more of the distended blood is forced out of the heart, and thereby the cause of the dilatation removed. Further, the rapidity of the blood-stream increases in consequence of the increase of the arterial pressure. Then after a number of strong contractions this acceleration goes through the capillaries and the veins, and a better distribution of blood takes place throughout the entire vascular system. The improvement in the quality of blood lightens the work of the heart-muscles, and in consequence of the stronger stream in the coronary arteries the weakening remaining products are more promptly removed. For patients in the first stages of fatty heart, or with well-compensated heart-failures, every form of German or Swiss gymnastic or mountain-climbing can be recommended. The speaker warned his listeners against over-exertion, and said that each performance should be followed by a sufficient period of repose. Those failures, however, which have no compensation or have lost it must first pass through a period of quiet and forbearance, then by well-measured work commence to improve the activity of the heart. The watchful control of the physician is necessary, and only the most quiet forms of muscular labor are fitting. The Swedish method

improved by Schott, brief and under medical control, interspersed with pauses for quiet, is to be recommended. On the ground of his experience of the last few years, the speaker advised the Oertel cure for chlorotics, but above all things with the greatest care and not to leave it to the patient himself. The heart should not be allowed to be more rapid in its actions than the lungs can follow, for deep, quiet breathing has a lightening influence. He closed with the wish that the therapy of chronic heart-disease would be placed on the list of subjects for discussion in the Congress.

Dr. Theodore Schott, of Bad Neuheim, recalled the fact that his brother, now dead, had recommended strong but quietly-carried-out movements with regular breathing as a method of cure in chronic heart-disease. The mountain-climbing method of Oertel the speaker could not sanction. It is useful only for a very small number of patients; we cannot say when we may commence with this treatment, or how high or far the patient shall be allowed to climb. There is always decided danger connected with this plan of mountain-climbing, and the doctor had seen harm done to patients treated in this manner by Oertel and his disciples. It is better far to first strengthen the heart-muscles by means of baths, gymnastics, etc., so that it can stand the greater labor required for mountain-climbing. In other cases the danger incurred by climbing is too great, but this can be determined by the pulse-rate.

Professor Leyden, of Berlin, remarked that the mode of treatment originated by Oertel had given valuable therapeutic material and was also an advance. He advised great care in deciding which cases of heart-disease could be improved by the gymnastics and when it is to be used. For light cases in youth, in which a valvular insufficiency can be compensated, careful gymnastics may be used. The President then recalled the fact that the method of Stokes had met with great objections, and was of the opinion that in the very difficult question, what influence movements, gymnastics, and mountain-climbing have on the heart, the deductions are still arbitrary in many points. He closed with the expression of the hope that in one of the Congresses not far in the future there would be sufficient material on hand to explain this weighty and difficult chapter.

Professor Schultze, of Heidelberg, reported numerous cases of acute disease of the central nerve system in which the general anatomical changes fail and we must decide on a diagnosis of meningitis.

Professor Friedrich Mueller, of Berlin, read on the resorption of food in certain diseases.

Professor Leyden then made a few short closing remarks, in which he expressed great satisfaction with the work of the Congress and hope for its future advancement.

Adjourned to meet in Wiesbaden a year hence.

PROCEEDINGS OF SOCIETIES.

AMERICAN MEDICAL ASSOCIATION.

IN accordance with the programme, the Thirty-Eighth Annual Meeting of the Association convened in Chicago at 11 A.M., June 7. As usual, it continued four days; its general sessions occupying each morning, while the several Sections devoted the afternoons to their proper work, except the final afternoon, which was appropriated to a visit to the city of Pullman. The evenings were filled very agreeably by the Entertainment Committee with numerous receptions at private houses of the leading citizens, both physicians and laymen, a general reception being given on the evening of the second day by the profession of Chicago, at the armory of Battery D, on Michigan Avenue. The general sessions were held in Central Music Hall, which was convenient, comfortable, and well adapted to the purpose. On the contrary, the places appointed for the various Sections were widely separated, giving rise to considerable inconvenience and causing a reduction in the attendance upon their meetings. There was no lack of papers, and those read were fully up to the standard of former sessions, and many of them were such as to reflect credit upon American medicine. The number of delegates and permanent members in attendance was about twelve hundred. No serious differences of opinion were brought out in the discussions; evidently the enemies of the International Medical Congress had concluded to contribute to the harmony of the meeting by remaining at home.

Among the features of the session were the daily issues of the *Medical Standard* and the *Medical Journal and Examiner*, each of which published interesting reports of the work of the Association of the day preceding. These were distributed gratis to the members each morning. This is an instance of enterprise highly creditable to the editors, and in keeping with the energetic and progressive spirit of the place.

First Day's Proceedings.

Dr. Charles Gilman Smith, the genial Chairman of the Committee of Arrangements, called the meeting to order, and the session was formally opened by prayer by the Rev. S. J. McPherson. Dr. Smith then introduced the Mayor of Chicago, Hon. J. A. Roche, who delivered a brief address of welcome. The report of the Committee of Arrangements was read and adopted. Ex-Presidents and Vice-Presidents of the Association were requested to find seats upon the platform, and, as they did so, were greeted with applause.

Dr. P. H. Millard, Vice-President, of Stillwater, Minnesota, was called to the chair by

the President, E. H. Gregory, M.D., of St. Louis, Missouri, who proceeded to deliver

THE ANNUAL ADDRESS OF THE PRESIDENT.

"Cell-Antagonism" had been selected as the principal subject of the Address. In the mind of the speaker, cell-antagonism is life. It forms "the foundation of symptomatology and pathology; conjoined with cell-changes, the basis of pathological anatomy, embracing at once the universe of life and all the possibilities of life, disease being but one of the multitudinous phases of life." In the cells resides the force of "vital resistance" which forms the basis of therapeutics,—the real *vis medicatrix naturæ*.

In pathology, organizable fluids are no longer recognized. Cell-potency, cell-subtlety, and cell-antagonism constitute the pith and marrow of medical science. Inflammation is practically a struggle between irritant bodies and white blood-corpuscles. Where pus is found, it is the result of the intrusion of some noxious agency, some contagion, some pestilence: in short, a specific cause, a bacterial invasion.

Cell-antagonism implies a struggle. The duration of the struggle is determined by the quality of the irritant and the strength and resources of the antagonists. Acute inflammation is a sharp and decisive action; chronic inflammation is slow and indefinite. There are two striking important chronic conditions: the interstitial inflammation and the infective granulomata,—interesting alike to the physician and the surgeon. Both are alike disastrous: interstitial inflammation destroying by cicatricial contraction, infective granulomata by stopping at the fibroblast stage,—retrogression replacing development. The quality of infection and the failure to develop beyond the stage of granulative tissue is the exact condition as illustrated by tuberculosis, syphilis, lupus, etc., in contrast with which is fibrosis of the liver, cirrhosis, fibrosis of the kidney, Bright's disease, fibrosis of the brain, sclerosis, interstitial inflammation destroying the tissue-elements by strangulation, and infective granulomata by contamination.

Again, the two varieties of inflammation referred to declare that the quality of the irritant determines the effect of the inflammation,—the interstitial variety being caused by physical agency, and the infective by a vital one. Cells antagonize physical causes without losing any of their vital qualities. Not so when cells antagonize vital causes. When cells are pitted against cells they may be despoiled of their highest quality, as in the infection granulomata they have parted with formative activity. In short, the knowledge that pertains to the presence of a vital irritant epitomizes all that has been taught of infective disorders. The symptomatology and pathology of this class of diseases is but the life-history, the play of cell-activities, metabolisms, and catalyses of antagonizing organisms; likewise the knowledge pertaining to the presence of a foreign body or physical irritant is the knowledge in brief of fibroses and in general of the entire class of disorders known as interstitial inflammation. A persistent irritant—injury—with its attendant concentration of leucocytes, their inevitable development and ultimate transformation, the history of the capsulation of a foreign body, whether it be animate or inanimate, is the history of cirrhosis of the liver, fibrosis of the lung, morbus Brightii, atrophy of the heart, atrophy of voluntary muscles in general, sclerosis of the brain and bones: in short, diffuse capsulation. Some disseminated irritant, say alcohol, determines a sclerosis of the liver, and how? Every particle of alcohol being a foreign particle, having its capsule, it follows that capsulation is as uniformly distributed as the cause. An artisan inhales fine particles of steel or other foreign material, and fibrinosis of the lung is the consequence. The irritants of gout and rheumatism are lodged in the kidney, the interstitial tissue of the organ increases, and in the end strangulates the tubules and Malpighian bodies, resulting in shrinking and total disorganization of the organ, constituting Bright's disease. Like changes occur in the heart coincident with the development of the interstital fibrous tissue, as atrophy of the muscular substance, substituting a fibrous induration for its normal structure. A similar change in the voluntary muscles occurs in the curious disease known as pseudo-hypertrophic paralysis, chiefly afflicting children. The connective tissue between the muscular fibres increases so much that the muscles affected may exceed their normal size three times. Later, however, the new tissue shrinks, and the contractile material of the muscles is spoiled. The condition of sclerosis in bones corresponds to cirrhosis of the liver and Bright's disease of the kidney. In the nerve-centres the interstitial tissue — neuroglia — takes on the same chronic over-growth, strangling the nerve-strands and cells, giving rise to the most singular and complicated nervous phenomena. The changes thus induced are recognized by the general term sclerosis. If it involve the fascicules of Burdach and the column of Goll, locomotor ataxia results; if the medulla, bulbar paralysis, etc.

He had purposely avoided reference to diathesis, as also to the precise neurological relationship of cells, not because he denied their influence, but because too little is definitely known. On the contrary, the behavior of cells relatively to irritants is well understood. The presence of a foreign body is at once and directly resisted by the leucocytes, a zone of inflammation, its destruction, transportation, or capsulation; even parasites which resist the death-dealing assaults of the

leucocytes are at last imprisoned in cases of fibrous tissue.

There yet remains for our consideration a mysterious possibility relating to cell-life of great practical moment: that of entering upon a life of independence, separating from the central nervous system "head-quarters," disregarding the "field-telegraph," oblivious to the morning "drum-beat," and wholly ignoring the restraining and directing influence of environing structures. We have learned that however much irritation may affect the vital qualities of cells, their fidelity is always preserved, there being no sign of disaffection, the army ever intact, the fealty of the soldiers supreme. Physical causes—traumatism—may crush or impair the tissues, but the cells come to the rescue with all vigor and directness. The prolonged presence of bacteria may impair the forces of the cells, enfeeble and extinguish them, but as long as life lasts their efforts are in harmony with the purposes of the organism. Thus it appears that alienation is not possible through the agency of irritation, however intensified, modified, or prolonged.

The question constantly obtrudes, Is alienation possible to a mature element, to an element that has assimilated itself physiologically as well as anatomically with the surrounding tissues, taking part in its functions, concurring and co-operating in all the processes of the economy? This question seems to have confronted Cohnheim when his ingenuity suggested the embryonal hypothesis,—viz., that the tumor-germ was congenital; that there were in the mature body embryonal elements and tissues not utilized in the elaboration of the normal structures: latent embryonal elements, small embryonal cells so diminutive as to elude observation, inactive perhaps till some exciting cause awakens activity. Is not an embryonic element in a mature organism an alien? Is it not already an independent element? Are not the patches in the skin, pigmented moles, islands of cartilage in mature bone, congenital angioma, etc., independent structures, already tumor-germs, congenital rudiments of tumors? Accept the hypothesis of the great German pathologist, and the problem of tumor-etiology is almost solved; it remains only to find the exciting cause; the predisposition is inherited; irritation, simple or otherwise, may be nearly allied to the awakening impulse. The difficulty is to reconcile cell-antagonism with the proposition this doctrine includes: the idea that all discordant bodies are treated as intruders, either ingested, transported, or covered up. We can conceive the possibility of the existence of an inoffensive tissue or element, one that simply draws its nourishment from adjacent tissue without any serious disturbance of their normal metabolism. We would gladly adopt the theory of Cohnheim which ascribes the origin of tumor-neoplasms to persistent germinal rudiment. Certainly it has much to recommend it. Countless latent embryonal structures, relatively independent, are tolerated by the organism, remaining inactive till favored by some concurrent event, the nature of which is incomprehensible, when they may grow according to their bent. Is it not quite as possible there may be similar, relatively independent elements ready, when stimulated, to multiply independently? Congenital angioma often grow without definite limit; pigmented moles—black, slightly-raised patches in the skin with which all are familiar—are composed of tissue exactly resembling sarcoma; always suspicious because of their disposition to proliferate independently. It is most difficult to believe in the infidelity of covenant cells of sundering the compact which unifies the organism. Emancipation seems almost out of the question. We must not only believe that dependent benignant elements become independent, but indifferent, vicious, infective. In short, the elements of the host become the elements of a parasite,—a parasite so vigorous, corrupt, and wicked as to destroy its source.

The painful part of the retrospect of a year is that which recalls those who have been taken from us. The past year has had a very special grief for our Association in the death of one of our ex-Presidents, Dr. William Owen Baldwin, who died at his residence and the place of his birth, Montgomery, Alabama, May 30, 1886. He was among the early members of the American Medical Association, and its President in 1869, presiding at New Orleans. His address on that occasion will be remembered as abounding in Christian and patriotic sentiments, eminently befitting the good and great physician. The Committee charged with the organization of the Ninth International Medical Congress, which meets at Washington City this year, had named him as one of its Vice-Presidents. Dr. Baldwin was remarkable for his culture, the eloquence of his speech, and the beauty of his diction, and will be remembered as an imposing figure in the history of this great Association.

I need scarcely remind you, gentlemen, that we shall have with us after a few weeks the medical men of all nations. Soon we shall extend the hand of fellowship to those with whom we have heretofore been united in interest and sympathy in the cause of science. We know that everything is being made ready, and that success is assured. Again you will join me, I know, in the declaration that a hearty American welcome awaits their advent, and that the ninth meeting of the great Congress will be memorable in the history of its organization.

On motion of William H. Pancoast, M.D., of Philadelphia, a vote of thanks was unanimously passed to the President for his most interesting and suggestive address.

By permission of the Association, the report of the committee on "The Sanitation of Emigrant-Ships," appointed at the last meeting, was read by the chairman, Dr. A. N. Bell, of New York. The report directed attention to the inefficiency of present legislation in securing proper sanitation on board of emigrant-ships, and pointed out some flagrant abuses. Among the means to be adopted, it was recommended that Congress be memorialized upon the subject by the Association, recommending that all vessels carrying more than six hundred passengers and crew, other than first-cabin and saloon passengers, should be provided not only with a properly-qualified physician, but also with a junior or assistant. These should all be competent to render prompt medical aid without charge to those who may need it, and also be capable of making suggestions to the master upon the sanitation of the vessel, and on arrival shall make full reports to the sanitary authorities of all cases of disease, insanity, or imbecility occurring during the voyage. An amendment to the Medical Act of 1882 was deemed imperatively necessary.

The report of the Committee was adopted, and the Secretary directed to transmit copies to the Secretary of the Treasury and to both branches of the next National Congress.

Dr. Deering J. Roberts offered resolutions of censure of a public newspaper in Chicago which had slandered the members of the Association.

Dr. Grissom, of North Carolina, objected to the passage of the resolutions, and moved that they be laid on the table. He considered the action recommended as unworthy the Association, and in view of its high calling it would be highly unbecoming to enter into controversy with a newspaper. (His motion prevailed.)

On motion of Dr. William Brodie, of Detroit, a proposed amendment was adopted creating a new Section on Dermatology and Syphilography. (On motion of Dr. George H. Rohé, the word "Syphilography" was substituted for "Venereal Diseases.")

A report on "Yellow Fever Legislation," Dr. J. McF. Gaston, Chairman, was, by his request, referred to the Section on State Medicine for discussion.

(To be continued.)

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

THE Ninth Annual Meeting of the Association was held in the Hall of the Academy of Medicine, New York, May 26, 27, and 28, 1887. The President, Dr. E. Fletcher Ingals, of Chicago, occupied the chair.

The meeting was opened by the delivery of the President's Address. After some preliminary matters had been discussed, he referred to

INTUBATION OF THE LARYNX.

In 1858 an attempt was made in Paris to treat stenosis by intubation. Seven cases were operated on, and of these five died and two cases recovered after subsequent tracheotomy. In 1880 O'Dwyer introduced intubation, one of the most useful operations of modern times. In the after-treatment, while the tube is in position, liquids should not be drunk by the patient.

In twelve cases of diphtheritic laryngitis he had performed intubation, in three of which recovery followed. By a coincidence, the cases of recovery were the only ones in which the author had charge of the after-treatment. One case lived eight days, and then died suddenly an hour after the tube had been removed. Another lived eight days, and then died of pneumonia. Details of the cases treated were given. As a result of his experience, he concluded that the treatment after intubation should be: 1. Prohibition of fluids except by enemata. 2. Some preparation of mercury should be given in large and frequent doses. 3. In case of development of bronchitis or pneumonia, respiratory and cardiac stimulants should be given freely but cautiously.

By correspondence and study of the literature he had collected five hundred and eighty-four cases, with one hundred and thirty-four recoveries. The percentage of recoveries will be greater when more care is exercised in the use of fluids. When medicines fail, no time should be lost in providing for the free entrance of air, either by intubation or tracheotomy. Intubation can be done more quickly, more safely, with less shock to the patient and less objection on the part of the parents. The operator should be prepared to open the trachea if loosened membrane should be forced down into the trachea. When the tube fails to relieve the dyspnœa tracheotomy should be performed, unless there is reason to believe that the latter operation will fail. When membrane is loose in the trachea, no time should be lost in the use of forceps, which rarely succeed, but tracheotomy should be resorted to. The results obtained by intubation are about as good as tracheotomy at all ages, but apparently better in young children.

The first paper read was by Charles E. Sajous, M.D., of Philadelphia, entitled

A STUDY OF SOME OF THE OBJECTIONABLE FEATURES OF INTUBATION.

Statistics favor the operation of tracheotomy at present, but the author believed intubation the better operation. The principal objections according to the degree of danger are: 1. The tendency to the obstruction of the tube by fragments of membrane. 2.

Crowding down of loose membrane during introduction of the tube. 3. Passage of food into the trachea. 4. Momentary arrest of respiration during introduction of tube. 5. Liability of the tube to be coughed out. 6. Slipping of the tube into the trachea. The tendency to obstruction was attributed to the limited diameter of the tube; the crowding down of membrane to the length of the tube; the passage of fluid to the weight of the tube; the liability to be coughed out to the limited diameter of the tube; and the slipping of the tube to the weight of the instrument and the formation of the head.

The speaker exhibited instruments on the principle of the bivalve speculum, which were intended to embody the suggestions made above. This tube obstructs the larynx very little, leaving the breathing-space almost as great as normal.

The author also exhibited an instrument intended to remove loose membrane from the larynx. The instrument consisted of forceps which could be protruded into the larynx, by an arrangement in the handle, the required distance, and the membrane grasped.

In the discussion which followed the reading of these papers Dr. Delavan suggested the use of an œsophageal tube in order to prevent ingested fluids from entering the trachea, and Dr. S. H. Chapman recommended the use of small quantities of pilocarpine to relieve thirst, and enemata or baths.

MODIFIED LARYNGECTOMY. BY J. SOLIS COHEN, M.D., OF PHILADELPHIA.

The operation is applicable to those cases in which malignant disease is not too extensive; it has the advantage over complete laryngectomy of leaving the greater portion of the thyroid cartilages undisturbed while the respiratory portion of the larynx is removed. On the cadaver the operation can be performed in two minutes. In disease limited to the interior of the respiratory tube, especially carcinomatous disease, it fulfils every indication that prompts complete laryngectomy. The advantages claimed for the operation were: 1. Rapidity, ease, and comparative safety for the patient. 2. The small size of the wound. 3. The preservation of the attachment of various important muscles and ligaments. 4. The retention of important structures in their normal relation. 5. A firm natural support is left for the application of any artificial apparatus.

The author urged that this operation should be performed in preference to complete laryngectomy except when absolutely precluded by the extent of the disease.

PRESENTATION OF INSTRUMENTS.

Dr. T. A. De Blois, of Boston, exhibited a portable apparatus for compressing air.

Dr. E. C. Morgan, of Washington, presented a universal powder-blower, which could be used in diseases of the nose, throat, vagina, or rectum.

Dr. Allen, of New York, exhibited an improved form of snare which could be used with one hand.

The following were appointed as the Nominating Committee: Drs. Beverly Robinson, of New York; W. C. Glasgow, of St. Louis; and S. H. Chapman, of New Haven.

THE PATHOLOGICAL NASAL REFLEX: AN HISTORICAL STUDY. BY JOHN N. MACKENZIE, M.D., OF BALTIMORE.

The fact is established beyond doubt that a causal relation exists between diseases of the nasal mucous membrane and other portions of the respiratory tract and many conditions of distant parts of the body. Hay-fever can be traced to the time of Galen. The fact that tickling of the nose would arrest hiccough was referred to by Plato. The irritating effect of the odor of flowers was recognized in very early times. Reference was made to the observations of various individuals in regard to reflex conditions due to nasal disease. The paper was a very interesting contribution to a subject which only recently has had its real importance acknowledged.

ANALYSIS OF CASES OF HAY-FEVER. BY JOHN O. ROE, M.D., OF ROCHESTER.

The experience of the author up to the last hay-fever season comprised forty-two cases. A study of these cases tended in the main to confirm the opinions expressed in February, 1883. Of the forty-two cases, twenty-six were males and sixteen females. The attacks came on between May 1 and August 1. In all the active symptoms subsided soon after the appearance of frost. In some cases the hay-fever dated from a severe attack of cold. In every instance there was disease of the nasal passages. The location of the sensitive areas is not constant, but they are usually most marked over the areas of greatest hypertrophy. The areas have not been confined to the posterior portion nor especially to the anterior portion of the turbinated bones. In the majority of cases the septum was as sensitive as the turbinated bones. Thirty-one patients suffered with asthma. But twelve patients had a distinctly nervous temperament, while nine were distinctly phlegmatic.

The plan of treatment adopted is to restore the nasal passages as nearly as possible to their normal condition, and to destroy the sensitive areas by cauterization. Deep cauterization has been most effective, while superficial cauterization had no marked effect. The condition of the larynx, pharynx, and bronchi must not be overlooked. Not infrequently enlarged tonsils will keep up irritation in the turbinated bones. A neglect to cure a bronchitis may account for the return of the disease.

Thirty-five of these cases have practically been cured. Seventeen have remained exempt for periods varying from one to nine years. Four were not relieved owing to imperfect treatment; and five have been lost sight of. The following conclusions were presented:

1. All cases of hay-fever have their initial lesion in a diseased condition of the tissues of the nasal fossa.

2. All diseases of these tissues induce in the ganglionic centres connected with them an abnormal activity, which is reflected to other organs.

3. The sensitive areas in the nose are not found in any particular portion of the cavity. Nor are there any zones which when irritated produce always the same manifestations.

4. The direction in which the irritation is reflected is always in the line of least resistance. Irritation in the same region may be reflected in one direction at one time, and in another direction at another time.

5. The disease in the nose may produce disease in other portions of the respiratory tract, which may become independent centres of irritation.

6. The affection recognized as hay-fever is due to local irritations brought in contact with the sensitive areas in the nose.

7. The affection is not *per se* neurotic; nor is the so-called neurotic condition of the person necessary to render a person susceptible to local irritation applied to the air-passages. It is not necessarily associated with the nervous temperament.

8. The neurotic condition which is often regarded as the cause of the hay-fever is often the result of the local irritation.

9. By careful and thorough treatment of the disease of the nasal tissue combined with that of other portions of the respiratory passages below, which have become secondary sources of irritation, we need not fail to cure hay-fever.

In the discussion, Dr. C. E. Sajous, of Philadelphia, advocated deep cauterization. Drs. Mackenzie, Glasgow, Hooper, and Cohen regarded hay-fever as a general neurosis. Dr. Knight mentioned a case which had been arrested in its course by the fracture of a leg, and another after a consultation with a disciple of mind-cure.

ON THE TREATMENT OF ATROPHIC RHINITIS BY APPLICATIONS OF THE GALVANIC CURRENT. BY D. BRYSON DELAVAN, M.D., OF NEW YORK.

Some years ago, Dr. E. L. Shurly, of Detroit, recommended the use of the galvanic current in the treatment of dry catarrh of the pharynx, and related cases in which benefit had followed its use. He also advocated the same treatment in atrophic rhinitis. There is no disease which is more discouraging to the physician and patient than this of atrophic rhinitis. The author had tried this method of treatment in certain cases. The positive pole of a constant-current battery was applied to the nape of the neck, while the negative pole was applied directly to the mucous membrane by an electrode consisting of a copper wire around which absorbent cotton is wrapped. The strength of current employed varied from four to seven milliampères. In more recent cases of the affection the effect is marked, but even in the older cases the method is not without benefit. The author had found this measure useful in these cases, and reported illustrations. The objection to the method is the amount of time it requires.

Dr. De Blois said that he had obtained good results from the treatment by galvanism. Dr. Knight recommended temporary plugging of the nostrils. Weak (five- to ten-grain-) solutions applied every other day were approved by Dr. Roe, and chromic acid by Dr. Sajous.

The next paper was on

MYALGIA OF THE PHARYNX AND LARYNX. BY DR. S. H. CHAPMAN, OF NEW HAVEN,

in which the speaker called attention to certain peculiar conditions of the muscles of the upper air-passages which occur oftentimes in malarial disorders, and which, on account of their severity, may be brought to the notice of the specialist. The muscles most likely to be affected are the pectoral, the muscles of deglutition, and those of the larynx.

SENSORY AFFECTIONS OF THE THROAT. BY DR. F. I. KNIGHT, OF BOSTON.

The author especially referred to hyperæsthesia and paræsthesia. In hyperæsthesia the general condition of the patient is as a rule not sufficiently considered. The worst cases are alcoholic subjects and those with digestive disorders. These will often yield to withdrawal of the alcohol and regulation of the diet. Astringents are frequently of service. In the cases of paræsthesia which he had seen there had been a feeling of fulness, pressure, burning, globus hystericus, or the sensation of a foreign body in the throat. In these cases there is impairment of the general nervous system. The exciting cause may be some disease of the throat. Fatigue usually exaggerates these sensations. He had never met with paræsthesia of the larynx as the earliest symptom of phthisis, as had been claimed by some observers. The prognosis in most cases of paræsthesia is good if a careful treatment be carried out. The treatment of the neurosis of sensation must be aimed to cure the constitutional vice.

In the discussion cases were mentioned in which neuralgic pains were associated with syphilis, in others it seemed to be rheumatic or gouty.

(To be continued.)

AMERICAN SURGICAL ASSOCIATION.

(Continued from page 614.)

Third Day, Morning Session.

IN executive session the following officers were chosen for the ensuing year:

President.—D. Hayes Agnew, M.D., of Philadelphia.

Vice-Presidents.—N. Senn, M.D., of Milwaukee, and F. S. Dennis, M.D., of New York.

Secretary.—Jacob R. Weist, M.D., of Richmond, Indiana.

Treasurer.—Phineas S. Conner, M.D., of Cincinnati, Ohio.

Recorder.—J. Ewing Mears, M.D., of Philadelphia.

Council.—J. S. Billings, M.D., L. McLane Tiffany, M.D., Moses Gunn, M.D., and R. A. Kinloch, M.D.

Chairman of Committee of Arrangements.—John S. Billings, M.D., of Washington.

The following were elected to membership: Charles B. Porter, M.D., of Boston; William M. Masten, M.D., of Mobile; and Morris H. Richardson, M.D., of Boston.

The next meeting is to be held at the call of the President.

SURGICAL DISEASES OF THE WHITE AND COLORED RACES COMPARED. BY L. McLANE TIFFANY, M.D., OF BALTIMORE.

The paper was based on the record of four thousand nine hundred and thirty cases studied during a period of thirty-four months in a general hospital. The percentages of the affections were given in detail. The paper was simply intended as a preliminary communication, and, as a result of a study of the figures obtained, the following suggestions were made:

1. Surgical affections follow different courses in the white and colored races under identical hygienic surroundings.

2. Surgical injuries and operations are better borne by negroes than by whites.

3. Surgical diseases involving the lymphatic system, especially tubercular, are more fatal and more rapidly fatal in negroes than in whites.

4. Congenital deformities are rarer in negroes than in whites.

5. The surgical differences observed in whites and negroes are due to racial peculiarities.

DISCUSSION.

Dr. Christopher Johnston, of Baltimore, in opening the discussion, said that his experiences indicated that there are individual as well as racial peculiarities. These are most striking in proportion to the pureness of blood. The negro is a good subject for surgical operation. He had never seen carbuncle in the negro; nor could he recall a cleft palate or hare-lip in the darker individuals. Epithelioma is infrequent. Fibromas are quite frequent. He wished to emphasize the proneness to the development of keloid in the negro, and had found that in the negro the skin and white fibrous tissues are more frequently the seat of certain diseases than the same tissues in the white.

Dr. T. H. Richardson, of New Orleans, presented a detailed report of the statistics of the Charity Hospital bearing upon this point. He had found congenital deformities rarely in the negro.

Dr. E. H. Gregory, of St. Louis, said that he had seen keloid much more frequently in negroes than in whites, and he had never seen multiple keloid in the white race. The ability of the negro to stand operation may be due to his indifference and his inability to comprehend the magnitude of the operation. The results obtained at the City Hospital of St. Louis show that the negroes bear operations about as well as whites. It seems to be the generally-accepted idea that negroes are more subject to tubercular affections.

Dr. W. T. Briggs, of Nashville, Tennessee, said that his experience confirmed the suggestions of Dr. Tiffany. Negroes are very prone to suppuration. It is extremely difficult to prevent suppuration, even under strict antiseptic precautions. Negroes bear operations better than whites, but they do not get well so rapidly. While malformations are less frequent, still they do occur. The rarity of hydrocele in the hospital-records may be explained by the fact that negroes do not usually seek advice until the tumor has become so large as to give rise to much inconvenience. Fibroids and fibro-cystoma are very common in the negro. Ovarian tumor is rare, although he had had one case in which the tumor weighed one hundred pounds.

Dr. D. W. Yandell, Louisville, Kentucky, agreed with Dr. Briggs. He had seen many cases of keloid in the negro, but not a case in the white subject. He had seen but two cases of hydrocele in the negro, and never saw hare-lip, and but two ovarian tumors in the negroes. He never saw epithelioma of the face in a negro. Epilepsy is exceedingly rare in the negro. He had never seen a case of internal hemorrhoids in the negro. Tetanus is exceedingly common, especially in the black race. Stricture of urethra is exceedingly common among negroes.

Dr. R. A. Kinloch, Charleston, South Carolina: In considering this subject we make a mistake in classing all negroes together. In the pure negro suppuration is less likely to occur than in the white race. As a rule, the negro is not strumous, but mulattoes are. The pure negro bears operation well and recovers promptly.

Dr. A. Vanderveer, of Albany, during the past twenty years had seen a good many negro patients among the United States prisoners sent to the Albany penitentiary. The

vast majority of these die of tuberculosis of some form. Many of them have soft chancre with suppurative buboes. Where there is true Hunterian chancre, there has been the characteristic bullet bubo seen in the white race. There are a greater number of perineal abscesses and sinuses than in the white. If operation is done, there is less probability of urethral fever.

AN EXPERIMENTAL STUDY OF THE EFFECTS OF PUNCTURE OF THE HEART IN CASES OF CHLOROFORM-NARCOSIS. BY B. A. WATSON, M.D., OF JERSEY CITY, NEW JERSEY.

The investigation of this subject was suggested to him by the following occurrence. February 20, 1887, he had with chloroform killed a dog. The abdominal and thoracic cavities were opened about four minutes after the heart had ceased to beat. The assistant seized the heart with his thumb and forefinger, and the pulsations at once began, the contractions became full and regular, and continued three minutes. They were again stimulated by a second touch, action continuing two minutes. They were started a third time, and continued to beat one-half minute. This observation suggested the possibility of arousing the heart into action, even after entire cessation of its movements, by the introduction of a needle into the organ.

[The results of sixty experiments on dogs were given in detail. The experiment consisted briefly in producing death by chloroform-inhalation, and then, within from one to three or four minutes, an aspirating-needle was introduced into the heart through the chest-walls, the attempt being to reach the right ventricle. In the first fifty cases the chloroform was administered rapidly, and air was excluded as far as was possible. In the last ten the chloroform was administered slowly and with a large proportion of air. The first forty animals had already suffered some severe traumatic injury, while the last twenty were perfectly healthy animals. The punctures made in these sixty experiments were as follows: right ventricle, thirty-eight; left ventricle, six; right auricle, six; superior vena cava, three; inferior vena cava, two; apex of the heart, two; and not stated, one. The resuscitations were as follows: after puncture of the right ventricle, nine; right auricle, one. The first forty experiments gave only four recoveries, while the last twenty gave six. In only one of the sixty cases did the heart fail to respond to puncture, and in this instance the use of the needle was postponed for four minutes after the cessation of the heart's action, and one minute after breathing had stopped.]

Should the puncture be carried into one of the cavities of the heart in order that blood may be abstracted? In chloroform-narcosis the heart is found in diastole and the veins in the lungs are greatly distended with blood. It may, therefore, theoretically be assumed that blood may be advantageously drawn from the right side of the heart. The author was assured that this procedure was practical and advantageous.

The only deaths during these experiments which could be attributed directly to the puncture were those in which the needle penetrated the vena cava. In these cases there was profuse hemorrhage into the thoracic cavity. Punctures made into the auricle are sometimes followed by a flow of blood into the pericardium. Punctures into the ventricle are not attended with any hemorrhage from the interior of the organ, but there may be a few drops of blood from a wounded cardiac vein.

The following conclusions were reached:

First. Puncture of the heart, especially of the right ventricle, stimulates muscular contractions, and may be advantageously applied in the treatment of chloroform-narcosis.

Secondly. The best results are obtained when abstraction of blood from the cavity of the ventricle is combined with the stimulating effects produced by the entrance of the aspirator-needle.

Thirdly. The puncture of the right ventricle is a safer and more efficient operative procedure than the puncture of the right ventricle.

DISCUSSION.

Dr. N. P. Dandridge, of Cincinnati: We should be careful how we apply the deductions from these experiments to the human being. The conditions under which the experiments were made are different from those under which accidents usually occur in human beings. Accidents usually occur after only a small quantity has been taken, and often early in its administration. The effect is probably due to a reflex effect upon the inhibitory action of the heart. In the experiments reported, puncture was resorted to within one or two minutes after the cessation of the heart's action. In the accidents with chloroform it is not uncommon to have recovery after apparent cessation of the heart's action for a comparatively longer period. A large number of experiments are required to test the relative value of this procedure as compared with artificial respiration. The use of nitrite of amyl, and particularly with the subcutaneous injection of atropine, can always be done quickly, and has a stimulating effect upon the cardiac and respiratory centres.

Dr. John B. Roberts, of Philadelphia: While he has shown the comparative innocuousness of puncture of the heart with a small needle, the speaker has also shown the danger of using chloroform as an anæsthetic in any cases, possibly cases of parturition excepted. It is doubtful whether he could have killed the same number of dogs with

ether. His experiments have shown that it is more dangerous to puncture the auricle than the ventricle, which would naturally be suggested by the fact that the auricle has a much thinner wall. Dr. Westbrook, who performed cardiocentesis for conditions other than chloroform-narcosis, suggested puncture of the right auricle to the right of the sternum. The speaker had suggested, in 1883, that it would be better to puncture the right ventricle to the left of the sternum.

Dr. L. McLane Tiffany, of Baltimore: There are two points in which these experiments are open to criticism. It is well known that on dogs chloroform acts in a very uncertain manner. It is not safe to make deductions from the dog to the human being under these circumstances. In the second place, it is not well to make experiments in the laboratory and then advise others to try them on the human subject. The experimenter should test the experiments on the human subject before he recommends the procedure to others.

Dr. R. A. Kinloch, Charleston: In a recent case of chloroform-narcosis in my practice heart-puncture was tried, but without the slightest benefit.

Dr. T. J. Dunott, of Harrisburg, knows of one case in which the heart was twice punctured with an aspirator-needle and blood drawn from the cavity of the heart. It was a case of dilatation of the heart, with general dropsy, etc. The operation was performed by a homœopathic practitioner under the idea that he was dealing with a case of dropsy of the pericardium. A large quantity of blood was removed, and for a time there was improvement. The symptoms again returned, and the operation was repeated, but with a fatal result.

Dr. B. A. Watson said, in conclusion, that reference to the details of these experiments showed that in some the heart was excited to action fully three minutes after it had ceased. There are two reasons for selecting the right ventricle in place of the right auricle. In the first place, the risk of hemorrhage is less; in the second place, there is much more muscular substance in the wall of the ventricle than in the auricle.

With reference to the action of chloroform on the dog, I am well aware of the uncertainty of its action; but this is all against the dog. Where I have attempted to continue the anæsthetic action of chloroform on dogs for two hours, I lost one-half of the animals.

REPORT OF COMMITTEE ON THE PRESIDENT'S ADDRESS.

The Committee to which was referred the suggestions contained in the President's Address reported that, in view of the satisfactory manner in which the work of the present meeting had been prepared, it saw no reason for a change, and did not recommend the appointment of a Business Committee. It recommended the adoption of the second suggestion, with reference to the length of papers. With reference to the abrogation of Article IX. of the Constitution, the Committee was in accord with the President; but, as this article had been introduced at the express desire of the first President of the Association, it was recommended that it be allowed to remain. The Committee recommended the adoption of the suggestion that applications for membership should lie over for one year.

Afternoon Session.

HYPERTROPHY OF THE TONGUE, OTHERWISE KNOWN AS LINGUA VITULI, LINGUA PROPENDULÆ, AND MACROGLOSSIA. BY T. J. DUNOTT, M.D., OF HARRISBURG.

This affection of the tongue, although rare, is mentioned by nearly all surgeons of large experience. The case described by the speaker was that of a girl, 12 years of age, admitted to the Harrisburg Hospital January 6, 1886. The tongue protruded from the mouth a distance of three and five-eighths inches. The lips were greatly distended, and the angles of the mouth not far removed from the external opening of the auditory canal. The greatest width of the tongue was four and three-fourths inches, and the greatest circumference nine and three-fourths inches. The prolapse of the tongue was only of two months' duration, and had begun without apparent cause. The measurements taken one week after admission showed a decided increase in the size of the tongue. The tongue was removed February 19. After providing against hemorrhage, the organ was removed with scalpel and scissors, the section being so made as to secure a conical stump. All the dense fibrous mass was taken away, the weight of the removed portion being over ten ounces. By January 31 the stump was entirely healed. There was no difficulty in keeping the mouth closed. When heard from, March 23, she could eat and drink without difficulty, and was gaining flesh rapidly. The paper was concluded with an account of the various operations which had been practised for the removal of the tongue.

DISCUSSION.

Dr. L. McLane Tiffany, of Baltimore, said that the history of the case just given would well apply to a case which he had recently seen. A negro girl, 5 years of age, had suffered with hypertrophy of the tongue, dating from birth. Ever since the first few months of life the child had been unable to cover the tongue with its lips. The redundant portion of the tongue was removed with the Paquelin cautery. Within a week the patient was eating potatoes and meat, and left the hospital ten days after operation. At this time there was a healthy granulating surface.

CASES OF VAGINAL HYSTERECTOMY. BY J. FORD THOMPSON, M.D., OF WASHINGTON.

Case I.—Mrs. A. E., aged 45 years, white, was seen in April, 1885, suffering with malignant disease of the uterus. There was great destruction of the cervix, the ulceration extending above the internal os. On consultation, it was decided to avoid hysterectomy if possible, but to limit the operation to amputation of the cervix, with scraping, etc. During the operation the peritoneal cavity was opened. It was then decided to extirpate the uterus. The womb was separated from the bladder in front. A ligature was then placed around each broad ligament and tied. The uterus was then split in two. Each half was then brought down, the broad ligaments tied above the temporary ligatures, and the uterus removed. After thorough cleansing, the vagina was lightly packed with iodoform-gauze. At the end of the operation the patient was very weak, and, notwithstanding all efforts, died in the course of twenty-four hours.

Case II.—Mrs. H., white, aged 55 years, came under observation with cancer of the cervix in January, 1887. The posterior lip of the cervix was almost entirely destroyed, and the disease had encroached upon the posterior cul-de-sac. The cervical canal was involved at least as high as the internal os. The operation was performed February 28, 1887, antiseptic precautions being adopted throughout. The dissection was begun at the posterior part and carried around the cervix. A silk ligature was passed with a long curved needle through the lateral vaginal vault of either side and tied. The enclosed portion was then cut from the uterus. These ligatures presumably enclosed the uterine arteries and the lower part of the broad ligament. The uterus was then separated from the bladder in front, and a loop of silk was attached to the peritoneum. The posterior cul-de-sac was treated in the same way. The uterus was then tilted through the opening, and the broad ligaments transfixed and tied. There was no loss of blood. The peritoneal flaps were then brought together with two catgut sutures and a drainage-tube was introduced into each angle of the wound. The vagina was packed with iodoform-gauze. The patient recovered without any unpleasant symptoms.

Reference was then made to the history of the operation, and the various methods of performing it were described.

DISCUSSION.

Dr. T. R. Varick, of Jersey City: Whether such operations as this are likely to mitigate suffering or to prolong life beyond the average duration of the disease if left to take its course without interference, is a question yet to be determined. It would seem that any operation or method of treatment whose record does not show a prolongation of life beyond the utmost limit of the duration of the disease if left to itself is useless and should be avoided.

Dr. T. F. Prewitt thoroughly agreed with the author that extirpation of the uterus is a justifiable operation, and he did not know but that he was prepared to go still further and say that, on the earliest appearance of epithelioma of the cervix, the whole organ should be extirpated. He believed that ultimately this will be the course generally adopted.

Dr. E. H. Gregory, of St. Louis: It is one of the rules of old surgery to save every part possible, and I should no more think of removing the entire uterus for epithelioma of the cervix than I should think of removing the whole lip for limited epithelioma of that part. The surgery of the lips and the surgery of the jaws is applicable to the uterus.

Dr. R. A. Kinloch, of Charleston: Another of the rules of old surgery was that in malignant diseases we should cut far and wide. The older surgeons, as well as the modern, recognized the fact that malignant disease often spreads too rapidly for us. Here we have an organ suspended in the pelvis and easily isolated. Now, if statistics show that by cutting far and wide, without jeopardizing life too much, we can cut short the disease, we are carrying out the rules of old surgery when we do so.

The next paper was the report of a case of

ANEURISM OF THE LEFT SUBCLAVIAN ARTERY, FOR THE CURE OF WHICH THREE METHODS OF TREATMENT WERE EMPLOYED. BY T. G. RICHARDSON, M.D., OF NEW ORLEANS.

The patient, a healthy, muscular Irish laborer, came under observation October 19, 1885. Aneurism of the left subclavian artery was recognized. The patient had suffered with syphilis, and constitutional measures were first tried. Iodide of potassium in fifteen- or twenty-grain doses was given three times a day. At the end of a week, no perceptible effect being observed, it was discontinued. Direct pressure was next tried; an elastic band with a compress over the vessel was secured to a belt around the waist. This was continued a month, and, although it slightly retarded the growth of the swelling, it had had no decided result. The third method, the introduction of surgical pins, was next resorted to. Nineteen of these—measuring an inch and a half in length—were passed through the anterior wall of the tumor at different places. The aneurism was still growing rapidly, and all the pins that could be reached were withdrawn. Some of them had disappeared on account of the swelling which had taken place. An attempt was then made to ligate the axillary artery; but in spite of the utmost care the lower portion of the aneurism was ruptured in the progress of the operation. The wound was at once packed

with lint dipped in Monsel's solution. The hemorrhage having been stopped, half a drachm of a five-per-cent. solution of perchloride of iron was injected into the centre of the tumor. At the end of twenty-four hours, no coagulation having taken place, a second injection of twice the strength was employed. The next morning there was an exhausting hemorrhage, ending fatally in a few hours.

A CASE OF FEMORAL ANEURISM CURED BY ELEVATION AND FLEXION OF THE LIMB

was reported also by Dr. T. G. Richardson, of New Orleans.

The patient, an Italian, aged 55 years, was admitted to the hospital December 11, 1886, with a large aneurism of the femoral artery four inches below the femoral arch. While the case was being studied the limb was flexed at a right angle at the hip and knee and suspended on a Smith's anterior splint. The next day the pulsation was greatly reduced and the patient was quite comfortable. The treatment was continued, and at the end of the third day the tumor was solid. The limb was kept in this position for ten days or two weeks. The patient was discharged cured one week later. The speaker called attention to the fact that there was no direct pressure upon the tumor, and that the result was due entirely to flexion and suspension of the limb.

WOUNDS: THEIR ASEPTIC AND ANTISEPTIC TREATMENT,

was the subject of a paper read by David Prince, M.D., of Jacksonville, Illinois.

After referring in general terms to the methods in use for the prevention of contamination of wounds, the speaker described an operating-room which he had devised, the object of which was to prevent the entrance of infecting principles. All the air entering this room is filtered through successive layers of cotton. The air is heated by means of gas-burners, and to prevent drying of the wound steam is permitted to enter with the air.

The next paper was entitled "Splenotomy." It was presented by James McCann, M.D., of Pittsburg, and communicated the notes of a case in which removal of the spleen had been practised with recovery of the patient.

A paper entitled "The Study of the Methods of Operation practised and of the Results obtained in the Treatment of Cleft of the Hard and Soft Palates, illustrated by the Record of Fifty Cases," by J. Ewing Mears, M.D., of Philadelphia, was read by title.

A vote of thanks was then extended to the Surgeon-General of the United States for the use of the room, to the Cosmos Club for courtesies extended, and to the officers of the Association for the efficient manner in which the proceedings had been conducted.

The Association then adjourned.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A STATED meeting of the Society was held April 27, 1887, H. AUGUSTUS WILSON, M.D., in the chair.

Dr. H. M. FUSSELL read a paper on

THE DIAGNOSTIC VALUE OF TUBERCLE-BACILLI IN SPUTA.

In looking over the literature relating to this subject, I have found but few writers among Americans, while the foreign journals of 1883 and 1884 contain numerous articles pertaining to it. At that time the subject was new, and it might be objected that the writers in those years were carried away by the glamour of the subject. That objection at least cannot be made to an article written now, five years after Koch's discovery, and more than four years since its application to the examination of sputa.

Without exception, the writers spoken of above agree that as a diagnostic sign of phthisis tubercle-bacilli found in sputa are of the greatest practical importance.

Heron (*Lancet*, February 3, 1883) examined sputa from sixty-two cases, and found bacilli in all but three. He comes to the conclusion that "the presence of the bacillus of tubercle in sputum is sufficient to fix the identity of certain cases of disease."

West (*Lancet*, February 25, 1883) thinks bacilli in sputa may be of diagnostic value in some doubtful cases, but generally they are in confirmation of what is made plain by physical signs.

Williams (*Lancet*, February 24, 1883) examined one hundred and thirty specimens of sputum; twenty-one cases were of various diseases other than phthisis,—asthma, bronchitis, etc.; one hundred and nine cases of various forms of phthisis; one hundred and six of the one hundred and nine cases contained bacilli.

Sée is a firm believer in the diagnostic value of tubercle-bacilli in sputa.

Dreschfeld examined forty-six cases in which physical signs were marked, and three doubtful cases,—two with no physical signs, one with an apex-catarrh only. He concludes that tubercle-bacilli in sputa are of the greatest diagnostic value, but of no prognostic value.

Licht found bacilli in sputa of all of twelve cases of phthisis.

Heron (*British Med. Journal*, April 28, 1883) found tubercle-bacilli in sputa of one hundred and sixteen cases. In the majority of cases there could have been no reasonable doubt because of the physical signs, but in a few cases where bacilli were found there were but few physical signs.

Marchiafava and Celli are quoted in the *London Med. Record* of January 15, 1886, as having found Koch's bacillus in sputa of fif-

teen cases of phthisis, in one case of slight catarrh of apex, and in one case of hæmoptysis without signs. They failed to find it in six cases of chronic bronchitis and one case of syphilitic inflammation.

Negri and Pinolini (*London Med. Record*, January 15, 1886) diagnosticated phthisis by the examination of sputum, and confirmed the diagnosis by subsequent physical examination.

Voblyi (*British Med. Journal*, 1883) found tubercle-bacilli in sputa of all of thirty-five cases of phthisis. No tubercle-bacilli were found in eighteen cases of various other lung-diseases. In some of the cases of phthisis the physical signs were at first meagre, but became more evident after a time.

Dreschfeld (*British Med. Journal*, February 17, 1883) examined sputa of three cases of hæmoptysis without evident physical signs of phthisis. Tubercle-bacilli were found in all the cases.

Prudden (*New York Med. Record*, April 14, 1883) examined fifty-eight specimens of sputa. Tubercle-bacilli were present in forty-six cases.

Austin Flint, Sr., says the results of the examinations of various specimens of sputa for tubercle-bacilli satisfy him that bacilli in sputum may be relied upon as proof of the existence of tuberculous disease.

If repeated examinations made with sufficient care show the presence of tubercle-bacilli, the diagnosis of phthisis is positive; and, on the other hand, if on repeated and careful examinations tubercle-bacilli be *not* found, phthisis may with much probability be excluded.

I venture to predict that the time will soon come when, in order to corroborate the diagnosis, and as the hinge on which the diagnosis will turn in certain cases, microscopical examinations of the sputa will be considered as much a matter of course as examinations of urine for evidence of renal disease.

My personal observations, as set forth below, confirm the above opinions and enable me to reaffirm that the presence of tubercle-bacilli in sputa is diagnostic proof of the presence of tuberculous phthisis. In the examination of my cases I used a modification of Gibbe's method suggested by Professor William Osler.

The sputum was spread as thinly as possible on a thin cover-glass, allowed to dry in the air, and passed quickly two or three times through the flame of a spirit-lamp. The cover-glass was then immersed in solution of magenta, manufactured by Beck & Co., and allowed to remain fifteen minutes, after first slightly heating. It was then decolorized in alcohol, acidified with hydrochloric acid (four or five drops to a watchglassful of alcohol), and examined under a moderately high power.

In this manner the whole proceeding can be done in less than half an hour. If bacilli were not found by the rapid method, however, the glasses were allowed to remain in magenta over-night, and then examined as before. The power used at first was Hartnack No. 9 immersion, afterwards 7 objective, 4 eyepiece. Lower power may be used, however, by one perfectly familiar with the bacillus. I have used a Zentmeyer one-fifth with A eyepiece.

The sputa from one hundred cases of lung-disease were examined.

For convenience we may divide these cases into two classes, I. and II.

Class I. contains eighty-four cases. The sputa of all these cases contained tubercle-bacilli.

Class II. contains sixteen cases. Tubercle-bacilli were *not* found in the sputa from any of these cases.

Each of the above classes may be subdivided—

Class I.

Subdivision A contains seventy-nine cases in which there were evident physical signs of phthisis.

Subdivision B contains five cases in which there were few or no physical signs of phthisis. The diagnosis was made by the presence of bacilli in the sputa.

Class II.

Subdivision C contains eight cases in which phthisis was *not* suspected from the physical signs, and no bacilli were found.

Subdivision D contains eight cases in which the physical signs led to a suspicion of phthisis, but the absence of tubercle-bacilli and the subsequent history proved it to be absent.

It is in such cases as those of Subdivisions B and D that the presence or absence of tubercle-bacilli in the sputa is of such practical value, and it will be well to take these cases in detail, referring the more curious to the summary attached for an account of each case.

We will first give our attention to the five cases under Subdivision B, or those in which the physical signs did not warrant a diagnosis of phthisis and in which tubercle-bacilli were found, the subsequent history proving the correctness of a diagnosis of phthisis made after examination of the sputa.

Case XVII.—Thomas R., aged 41, of good family history. Cough, hectic, and loss of flesh for eight weeks. Physical signs at first examination were entirely inadequate to base a diagnosis of phthisis upon. Examination of sputa at second visit showed the presence of myriads of tubercle-bacilli. Afterwards consolidation at right apex developed. The case ran a rapid course, and death took place within the year.

Case XXV.—May C., aged 21. Both parents dead of phthisis; cough, hectic, loss

of flesh. Examination of throat showed the presence of a polypoid growth. Physical signs were inadequate to base a diagnosis upon, though there were some signs of congestion at right apex. Examination of sputa showed numerous tubercle-bacilli. Rapid consolidation took place; death in eight months at the Episcopal Hospital.

Case XVIII.—Annie W., aged 35. Husband died of phthisis six months before patient came under observation. She was suffering from extreme dyspnœa and cough. Œdema of feet, having had an attack of general œdema some weeks previously. Examination of chest showed a mitral systolic murmur. The heart was beating very rapidly. The symptoms were attributed to the heart-lesion. No signs of consolidation could be found after careful examination. On examination of sputa, they were found loaded with tubercle-bacilli. She was admitted to the University Hospital; gradually failed; her chills and fever becoming more marked. Repeated examination of sputa always showed bacilli; finally signs of consolidation at right apex developed.

Case XX.—Mrs. R. Cough, slight expectoration, meagre physical signs. A few tubercle-bacilli found. Eight months have passed since the first examination. In the mean time the woman has become pregnant, and her health has improved, though the cough still remains. January 17, 1887, child born; cough returned, sputa re-examined, bacilli found. More evident signs of consolidation at apex.

Case C.—Mrs. H. Good family history. There was an attack of pneumonia three years ago. Since then health has been gradually failing. Now there are cough, hectic, loss of flesh. Slight consolidation at left apex. This woman was taken for consultation to one of the first diagnosticians of the city. The consolidation was recognized, but the case pronounced one of a probable catarrhal character. The sputa from this case were afterwards given to me, and myriads of tubercle-bacilli found. April 21, the case has grown rapidly worse, and death is expected daily.

As was stated in the history of these cases, the physical signs did not warrant a diagnosis of phthisis. The examination of the sputa was made because the cases were doubtful and interesting, for the sake of making the diagnosis. Though no better in these instances for the patient, it was a comfort to the physician as a diagnostician when the histories proved the correctness of his diagnosis of phthisis.

No less interesting and instructive than the above are the eight cases coming under Subdivision D, where the history and physical signs gave a strong suspicion of phthisis. No bacilli were found in any case, and complete recovery took place in five of the cases, two became much better, and one died of the results of an acute and, as I claim, croupous pneumonia.

Case XIV.—John C., aged 66. For four months there had been cough, hectic, sweats, and loss of flesh. There were signs of consolidation at right base. Under treatment the lung cleared up and the man made a good recovery. Repeated examination failed to show bacilli.

Case I.—William R. Family history of phthisis. Cough, some loss of flesh, hectic. Consolidation at left base. No bacilli were found. Under treatment lung cleared up, and one year afterwards he returned to the dispensary entirely well of lung-trouble.

Case III.—Walter L., aged 20. Good family history. Cough for one month. A sudden, rather profuse, hemorrhage. There were slight fever and signs of congestion at left apex. No bacilli were ever found. One year afterwards no return of trouble, and seems perfectly well.

Case VIII.—Alma N., aged 25. Uncle died of phthisis. Cough with slight loss of flesh for three months. The left apex dull, full of mucous râles, prolonged expiration. No bacilli found after repeated examinations. The lung cleared up, cough stopped, and one year after patient seemed perfectly well.

Case VI.—K. H., aged 35, with a good family history, had an attack of pneumonia eighteen months before she came under observation (declares she was perfectly well before). Since then has had cough, hemorrhage, hectic, loss of strength, but not of flesh, copious expectoration. On examination a large cavity was found at right apex. Repeated careful examinations failed to show tubercle-bacilli. The patient remained under observation for six months, and was in about the same condition as at first. This must have been either a cavity due to breaking down of lung following pneumonia, or, as Professor Flint suggests, one in which the tubercular process had become cured or was dormant.

Case VII.—A girl, aged 7. Perfectly well until ten weeks before she came under observation. At that time she had an attack of what was apparently acute pneumonia of the right apex. She did not rally. The lung broke down, and at the time she was seen there was a cavity at right apex. The patient died from exhaustion four weeks after. No bacilli were ever found in sputum.

Case II.—Man, aged 29, with a family history of phthisis. Had an attack of hæmoptysis in the fall of 1884; during that winter severe cough and loss of flesh. There were physical signs of consolidation at left apex. No bacilli were found after careful and repeated examinations. The man gradually improved, and now, April, 1887, is apparently well, though there is still some dulness at left

apex; he is able to work, and does not complain.

Case XV.—Sallie K., aged 29. Good family history. About one month before she came under observation began to have cough, fever, pain, rapid loss of flesh. She was found in bed, emaciated, slight fever, 101° F., extreme dyspnœa, diarrhœa, and presented the picture of one in advanced phthisis; indeed, such had the case been pronounced. I found but few physical signs. There was consolidation at left base, however. Repeated examination failed to show bacilli. Under vigorous treatment the patient revived, and now is perfectly well. Evidently a case of neglected pneumonia.

Of the seventy-nine cases belonging to Subdivision A there could have been no reasonable doubt of the existence of phthisis, basing the opinion on the physical signs present. Tubercle-bacilli were found in each case.

Subdivision C contained eight cases,—two of chronic pleurisy and six of chronic or subacute bronchitis. The sputa from each case were repeatedly examined, and no bacilli were ever found.

As most of the cases reported were taken from my service at the University Medical Dispensary, and as dispensary cases as a rule are not long under observation, it is impossible to draw any positive conclusions from these cases as to the relation between the bacillus and prognosis in phthisis, but in Cases XVII., XIX., and LXXVII., which ran a fatal course within a year, and in Cases XXXI., XXXIII., XXXVII., XXXIX., XLVIII., LVII., LXXVI., and XCVI., which were examined near to the time of death, tubercle-bacilli were unusually abundant. Especially was this the fact in Case LVII., which was examined about ten days before death.

In conclusion, I wish to acknowledge my indebtedness to Professor Osler, to whom I owe my knowledge of the *technique* of the work, and to Drs. John H. Musser, of Philadelphia, and R. R. Bunting, of Roxborough, for opportunity given to examine sputa of their cases.

DISCUSSION.

Dr. W. Osler: I think that the importance of the tubercle-bacillus in the sputum as a means of diagnosis is not sufficiently recognized by the profession. The technical skill required is not very great, and the time required with the rapid methods of staining is not more than fifteen to thirty minutes. I have succeeded in demonstrating the bacillus within five minutes from the time that the sputum was put upon the slide. This examination is particularly serviceable in just those cases where the evidences of disease are very slight. Only within the past few weeks there was in the University Hospital a man without any pulmonary signs who had been failing in health and had slight fever. The condition was attributed to some obscure abdominal disease. Finally a suspicion arose that there might be some trouble with the lung, and the sputa were examined and the bacilli found. The signs of phthisis have since developed. The power required for these examinations need not be, as Dr. Fussell says, very high.

Dr. Frank Woodbury reported a case of "Laparotomy for Perityphlitic Abscess, with Removal of the Vermiform Appendix." (See page 593).

AMERICAN ORTHOPÆDIC ASSOCIATION.

THE first meeting of this new special organization was held at the New York Academy of Medicine, New York, June 15 and 16, 1887.

After assembling, the Association organized by electing Dr. Virgil P. Gibney, of New York, temporary Chairman, and Dr. Louis Hall Sayre, of New York, temporary Secretary. The proceedings were interesting and varied.

The following papers were read and discussed:

Dr. Packard, of Hartford, read the history of a case of enlargement and elongation of the lower extremity.

Dr. Morton, of Philadelphia, presented an instrument for the forcible correction of club-foot.

Dr. Sayre, of New York, exhibited a case of talipes equino-varus treated by division of the tendo Achillis.

Dr. Gibney, of New York, exhibited two cases of chronic osteitis of the shoulder-joint.

Dr. Taylor, of New York, read notes on a case of Pott's disease.

Dr. Judson, of New York, exhibited a new form of ischiatic crutch.

Dr. A. Sydney Roberts, of Philadelphia, made some remarks on spurious valgus (flat-foot), and showed a new form of plantar spring for treatment.

Dr. Bradford, of Boston, presented specimens and the history of a case of hip-joint disease.

Dr. Sayre, of New York, presented specimens from a case of excision of the hip.

Dr. Gibney, for Dr. Morgan Vance, of Louisville, presented a specimen of a rudimentary tail that had been removed from a negro.

Dr. Ridlon, of New York, read the history of two cases of Pott's disease in children, difficult of actual diagnosis.

Dr. Hodgen, of St. Louis, made some remarks on the treatment of psoas abscess for caries of the spine.

Dr. Taylor, of New York, exhibited a new form of antero-posterior splint for the treatment of Pott's disease, and a new abduction splint.

Dr. Ketch, of New York, showed a new

method of securing constant traction in using the long hip-splint.

Dr. Stillman, of New York, exhibited a new form of round-shoulder brace.

Dr. Brown, of New York, showed a case on which osteoclasis had been performed.

Dr. Bradford, of Boston, read the history of a case of torticollis due to strabismus.

Dr. Knickerbocker, of New York, exhibited a new form of abduction apparatus.

A permanent organization having been formed, the following officers were elected for the ensuing year:

President.—Newton M. Shaffer, of New York.

Vice-Presidents.—Z. H. Bradford, of Boston, and A. Sydney Roberts, of Philadelphia.

Secretary and Treasurer.—Louis Hall Sayre, of New York.

Corresponding Secretary.—Samuel Ketch, of New York.

The Association will meet next year at a place and time to be selected by the Executive Committee.

A banquet given at the St. Nicholas Club and private receptions added to the social attractions of the meeting.

REVIEWS AND BOOK NOTICES.

THE HEALING OF ARTERIES AFTER LIGATURE IN MAN AND ANIMALS. By J. COLLINS WARREN, M.D., Assistant-Professor of Surgery, Harvard University; Surgeon to the Massachusetts General Hospital; Member American Surgical Association; Honorary Fellow Philadelphia Academy of Surgery. One volume, 184 pages. Superbly illustrated with Twelve Full-Page Plates in Black and Colors. Parchment-muslin binding. Price, $3.25. William Wood & Co., New York.

In this handsomely-printed monograph Dr. Warren discusses the history of the use of the ligature in surgery, and of the various theories concerning the method of repair. He contributes the results of his own experimental and clinical investigations carried on through a series of years, including observations upon the closure of fœtal vessels, and concludes with a summary of the whole subject. The book is handsomely printed, and contains a number of well-prepared illustrations. This work is highly creditable to American surgery.

EARTH AS A TOPICAL APPLICATION IN SURGERY. By ADDINELL HEWSON, M.D. Second Edition. With Four Photo-Relief Illustrations. Philadelphia, The *Medical Register* Company, 1887. Pp. 309.

The recent advances in surgical appliances bring into discussion the *modus operandi* of former methods of treatment. The antiseptic effects of clay are now cited to explain its remarkable effects when applied to some cases of suppuration. The cases given in this book will always command for the treatment advocated a respectful consideration. It is handsomely printed and illustrated.

NEW REMEDIES AND CLINICAL NOTES.

THE POISONOUS ACTION OF THE CHLORATES.—Marchand, of Marburg, gives a number of experiments on the dog as to the effects of an overdose of the chlorates (the potassium salt being commonly used), and also a collection of cases of poisoning by the same salt. In his experiments the salt was introduced into the system in various ways. The result was the same in each case,—viz., a change in the color of the blood to a dark brown during life, swelling of the spleen, and the occurrence of hæmoglobinuria and hæmoglobin casts in the tubules of the kidney. Exactly the same takes place in man when an overdose has been administered or taken inadvertently, the lapse of time before death varying in different cases from six hours to twelve days. Death is preceded in most cases by vomiting, diarrhœa, cyanosis, and collapse. Dyspnœa and convulsions are apt to supervene, and a dark coloration of urine if the case persists any time. The changes found after death in man correspond with those found in the poisoned dog. Out of twenty-five collected cases only four survived; of the remaining twenty-one, fourteen died within the first five days. After comparing these two series, Marchand discusses the action of the chlorates on the organism, and their *modus operandi* in producing death. On examining the blood during life or after death, the coloring-matter is changed into methæmoglobin, as evidenced by the dark or chocolate-brown color of the blood and its spectroscopic characters. The coloring-matter is disassociated from the red blood-corpuscles, set free, and converted into methæmoglobin, the corpuscles being rendered functionally useless, whence the dyspnœa in some cases. The destroyed or altered red blood-corpuscles become heaped up in the spleen, giving rise to swelling of that organ; and the free pigment floating in the blood is excreted by the kidneys, producing dark coloration of urine and casts of the tubules. In some cases of somewhat slow progress cerebral symptoms allied to those of uræmia supervene from suppression of urine, due, he thinks, to plugging of the straight tubules of the kidney with hæmoglobin casts. A few of the cases of poisoning have occurred even during the ordinary use of chlorate of potassium in the form of a gargle.—*Archiv f. Exp. Path. u. Pharm.*, vol. xxii., 1886; *Practitioner.*

PICRATE OF AMMONIUM FOR MALARIAL DISORDERS.—Mr. H. Martyn Clark, a medical missionary in India, has abandoned the use of the cinchona alkaloids in the treatment of intermittent fever in favor of picrate of ammonium. Of five thousand cases of which records were kept, in only nine did it fail to cure, and in these quinine succeeded at once. In all varieties of intermittent fever and in malarial neuralgias he found this agent an efficient substitute for quinine, over which it has the following advantages: 1. It is much less expensive. 2. The dose given is much smaller (gr. $\frac{1}{8}$ to $1\frac{1}{2}$ four times a day; gr. $\frac{1}{2}$ is a fair average dose). 3. It is free from the unpleasant effects of quinine, — headache, deafness, tinnitus,—and it does not cause nausea or disordered digestion in the doses ordinarily given.—*Lancet*, February 19, 1887.

MISCELLANY.

FLAVORING OF ANIMALS.—It is suggested that a new industry might be created in the raising of poultry and various domestic animals upon certain kinds of food which will impart to their flesh new and palatable flavors. It is well known, for instance, that the exquisite savor of the canvas-back duck is due to the wild celery it feeds upon in the Southern marshes, and the delicious Congo chickens owe their superior excellence to the pine-apples they eat. The grouse of the far Western plains is aromatic with the wild sage; wild ducks and other sea-fowl have a fishy flavor; and the fish fed to swine may almost be said to be eaten over again by the consumer of their pork. Milk is especially affected by whatever is eaten, as every farmer can testify whose cows give bitter milk whenever they eat the leaves of burdock, etc. There can be no doubt that the nature of their food greatly modifies the taste and quality of the meat of most animals, and perhaps with proper effort some really valuable discoveries may be made in this direction.—*Zymotechnic Magazine*.

LEAD-POISONING. — The daily papers of Philadelphia have attributed the deaths of eleven persons to eating buns or cakes artificially colored by chromate of lead. Dr. D. D. Stewart publishes an interesting paper upon the subject in the *Medical News* for June 18, containing records of eight cases in which the poisoning was chiefly manifested by convulsions.

JEFFERSON MEDICAL COLLEGE.—The trustees of Jefferson Medical College have restored to the chair of Anatomy, now occupied by Professor William S. Forbes, M.D., the control of the surgical clinics by the following resolution:

"*Resolved*, That hereafter the duties which relate to and are connected with the holding of the surgical clinics shall be performed by the Professor of Anatomy in equal association with the Professors of the Principles and Practice of Surgery and Clinical Surgery."

DR. RICHARD J. LEVIS having announced his intention of retiring from the duties of active professional life, a number of leading professional men tendered him a public reception at the Hotel Bellevue, Philadelphia, on the 21st inst. Professor D. Hayes Agnew was Chairman of the Committee.

THE INTERNATIONAL MEDICAL CONGRESS. —The members in attendance at the recent meeting of the New Jersey State Medical Society subscribed five hundred dollars towards the Entertainment Fund, according to the daily press.

DR. WILLIAM GOODELL has removed to No. 1418 Spruce Street, Philadelphia.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 5, 1887, TO JUNE 18, 1887.

COLONEL J. H. BAXTER, CHIEF MEDICAL PURVEYOR.—To proceed to New York City for the purpose of inspecting the medical purveying dépôt at that place. S. O. 133, A. G. O., June 10, 1887.

PARAGRAPH 15, S. O. 52, A. G. O., March 5, 1887, is so amended by Par. 9, S. O. 133, A. G. O., June 10, 1887, as to direct that MAJOR CHARLES H. ALDEN, SURGEON, be relieved from duty in Department of Dakota about June 20, 1887, and he is granted leave of absence from the date when so relieved, to include August 27, 1887.

MAJOR B. E. FREYER, SURGEON.—Granted sick-leave for one month. S. O. 28, current series, Division of the Pacific, amended by S. O. 29, Division of the Pacific, June 2, 1887.

MAJOR B. E. FREYER, SURGEON.—Found incapacitated for active service by an Army Retiring Board, and granted leave of absence until further orders on account of disability. S. O. 133, A. G. O., June 10, 1887.

MAJOR W. S. TREMAINE, SURGEON.—Sick-leave still further extended two months on account of sickness. S. O. 129, A. G. O., June 6, 1887.

CAPTAIN JOHN D. HALL, ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 136, A. G. O., June 14, 1887.

CAPTAIN A. H. APPEL, ASSISTANT-SURGEON. — Granted leave of absence on surgeon's certificate of disability, for six months. S. O. 127, A. G. O., June 3, 1887.

FIRST-LIEUTENANT W. C. BORDEN, ASSISTANT-SURGEON.— Granted leave of absence for one month. S. O. 138, A. G. O., June 16, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING JUNE 18, 1887.

SURGEON THOMAS C. WALTON.—Ordered, June 15, for examination preliminary to promotion as Medical Inspector.

SURGEON A. F. PRICE.—Detached from special duty at Annapolis, Maryland, proceed home, and wait orders.

SURGEON JAMES M. FLINT.—Detached from the "Albatross" and ordered to the Smithsonian Institution.

PASSED ASSISTANT-SURGEON W. G. G. WILLSON.—Ordered to the Receiving-Ship "Independence," Mare Island, California.

PHILADELPHIA, JULY 9, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON PREMATURE LABOR, AND THE MANAGEMENT OF WEAK AND IMMATURE INFANTS.

Translated for the *Medical Times* from advance sheets of the second volume of Professor Tarnier's new Treatise on Obstetrics,

BY THOMAS LINN, M.D.,

Paris.

WHEN gestation is interrupted in its usual course after the sixth month, it is called a premature labor. At present we will consider only that produced spontaneously or accidentally; artificially induced premature labor will be considered when we come to speak of obstetrical operations. The causes of premature labor, like those of abortion, are very numerous, and they need not be enumerated here. We will mention only a few of them: sexual intercourse especially is a frequent source of accidental labor; dropsy of the amnion, placenta prævia, eclampsia, also may produce labor before term much more often than abortion. In some women premature labor is a sort of habit. They are always confined before the normal term of gestation of living and healthy children, without anything being found to explain this anomaly. At times, however, there exists among them an evident hereditary predisposition, as was noticed by the old accoucheurs. De la Motte reports the case of a lady who was confined twice at seven months, and her two daughters afterwards did the same. Repetition of premature labor may also be caused by the death of the fœtus, as we have before remarked.

The diagnosis of premature labor does not present any difficulty, as its phenomena are the same as those of regular labor at term, and the delivery and after-treatment do not require special discussion. Sometimes premature labor is a happy event, in that it terminates a gestation complicated with serious accidents that have imperilled the health of the mother. In such a case it is plain that we should do nothing to prevent this favorable solution of the disorder. In cases that present themselves ordinarily, as soon as the symptoms of premature labor appear we should act as if it were an abortion, and endeavor to prevent the progress of the labor as long as the membranes are intact and the infant lives. We may use the usual means to prevent it, such as complete repose, injections of laudanum and chloral, hypodermic injections of morphine, etc. We may add that Laferla and Cazzani report that they have obtained good results by the use of asafœtida in cases of habitual premature labor. It is to be given as follows:

℞ Pulv. asafœtidæ, 6 gram.;
Syrup., 6 gram. M.
Ft. pilulæ no. lx.
Sig.—One to be taken three times a day.

However, often we cannot succeed in stopping the premature expulsion of the fœtus, and the children are then born in a state of feebleness which requires particular care. This congenital weakness is readily recognized by certain characters: one of the most important is the inferiority of weight in such children as compared with those born at full term. At the end of the ninth month of intra-uterine life the product of conception weighs from three thousand to three thousand five hundred grammes (about seven pounds), but if it is born before this period it will weigh less proportionately. A development of between eleven hundred and two thousand five hundred grammes may be called congenital feebleness. But one must base the appreciation of vitality of newly-born children not alone upon their weight, for some of them present a fair weight, but their organs are imperfectly developed. They breathe and eat poorly. Other children remaining longer in the uterine cavity may have only the same weight, and yet be fully developed, and they can breathe and digest better. The knowledge of the age of infants born before term is therefore of great value, and we should always endeavor to fix it with the greatest care. "The infant affected by congenital weakness," says Guéniot, "has certain external characters which will scarcely deceive an experienced eye, and which enable the diagnosis to be made even before having the child weighed. In such infants the organs are ill formed and the functions incomplete; the entire body is thin; the skin is soft and delicate and of a uniform bright-red color, and its transparency sometimes permits us to see the blood-

vessels that course underneath. The infant's cry is not vigorous: ordinarily it is sharp and monotonous, like the cry of the chick. The respiration is feeble and almost imperceptible. The thorax seems, so to speak, immobile, and does not present those alternations of rise and fall which are so manifest in the robust infant." The inertia of the external muscles is striking. "They hardly seem to contract, and the movements of the limbs are very rare and without vigor. The child, plunged in a sort of torpor, has not even strength enough to suck; the muscles of the mouth-walls and of the tongue and palate are apparently insufficient to cause suction, and deglutition itself is often slow,—a grave symptom, since the regular accomplishment of this physiological act alone renders life possible." A well-conducted hygienical treatment is the only means of combating this state, and it should consist in the use of heat and in a well-directed alimentation.

The action of the exterior air and variations of temperature are eminently dangerous for these little infants born before term, and they must therefore be kept in an atmosphere as warm and as equable as possible. Guéniot says "that the hand, when placed in contact with its hands, feet, or legs, and even its nose, should feel a sensation of heat equal to that of a warm bath." The newly-born child that suffers from congenital weakness must, in one word, be *penetrated with heat*, and it is only upon this condition that circulation, respiration, and all the great functions of life can go on in its frail organism.

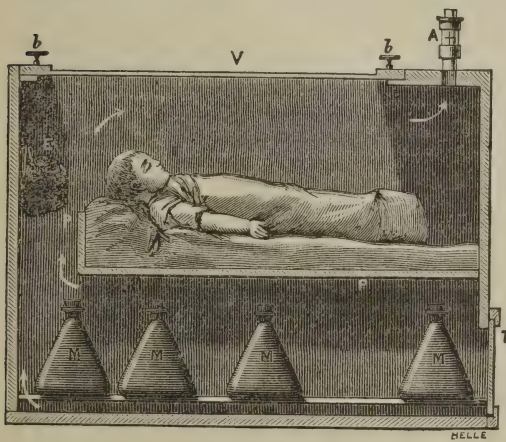
The means which have long been employed to effect this purpose are the following. The members and body are enveloped in a coat of wadding under their clothing, and a fold of cotton is placed around the head. In the cradle, two or three bottles of hot water are placed beneath the blankets, which are renewed from time to time. In changing the child, it is held before a good wood fire. In certain cases they have been kept in a room heated to 25° C. (77° F.), but it can easily be understood how difficult this is in practice. Massage is also resorted to in order to increase their circulation, and their limbs are rubbed with warm oils during five minutes, which is to be repeated two or three times in the twenty-four hours. Warm baths, in which some three quarts of wine is put, are used, and frictions with brandy, aromatic wine, lavender, etc., also have been resorted to.

In regard to the alimentation of infants born before term, the general rule is that the child is to be fed with its mother's milk or that of a wet-nurse direct from the breast. It should be well known to every one that a child may make suction-movements and yet not swallow in reality. To be sure that it has really been fed, it should be weighed both before and after nursing. If it does not swallow sufficiently, the milk is dropped into its mouth directly from the breast or given with a spoon; its meals should be given at least every two hours, and if possible every hour, *at least during the day*.

Such are the methods that have been in use for years until Tarnier's hatching-cradles were introduced, in which to maintain these infants in a constant temperature and in warm air. It was in 1857 that Professor Denucé, of Bordeaux, wrote as follows: "Having had occasion to give my care to an infant born about the sixth month of fœtal life, I found myself in presence of two indications,—to feed the child, and to keep up its temperature. To fulfil the second one I had constructed a cradle made of zinc, with double sides and bottom. Imagine, for instance, two bath-tubs, one smaller than the other, and one put within the other, leaving a space in which it was possible to put hot water: a funnel was placed at the top part, and a spigot at the bottom to draw off the water. To prevent loss of heat, the whole was wrapped round with flannel. Hot water was then put into the space between the cradles, and a thermometer gave the temperature and allowed us to keep up a regular degree of heat." In the case spoken of it was sufficient to draw off a pint of water and add as much hot water every six hours. Credé in 1884 also published an account of a similar apparatus that he had used.

Finding these sorts of incubating-cradles insufficient, Professor Tarnier had constructed one resembling a very large hatching-machine, which was erected at the Maternity Hospital, Paris, in 1880. The temperature was maintained at 32° C., according to Tarnier's advice, and Dr. Budin had a Regnard's regulator adapted to it, with electric alarm-bell. We will not describe this machine, as it was large and

costly, but M. Tarnier has recently had made a small apparatus suitable for family use, which is very simple and easily managed; it can be made by any carpenter at very little expense. "It is a box made of wood, sixty-five centimetres long by fifty high and thirty-six wide, and the sides are twenty-five millimetres thick. The inside of the box is divided by a partial partition into two parts; this horizontal partition is placed about fifteen centimetres from the bottom of the box. The lower story is intended for some hot-water bottles, such as are called 'monks' in Paris." (They are simply earthen hot-water bottles, with a flat side, and the hole for the cork on one side.) The wood-cut shows the apparatus.



There are two doors: one is a sliding door on the side of the box, to push to either side for the purpose of introducing the hot-water bottles; the other is at one of the ends (at T in the figure); it does not completely close the orifice, but allows air to enter. The upper part, for the baby, contains its bedding, and is covered with a glass top at V; it should close as tightly as possible with two screws at *b b*. At A is an outlet for the air, to which a small ventilator can be attached. In the opening between the two chambers a wet sponge is placed to keep the air slightly humid, and a thermometer is also placed here to mark the temperature. The heating arrangement is the earthenware jugs at M; they are twenty centimetres long, and contain a pint of water; four or five of them are used to keep the temperature to 31° or 32°. It is heated to this degree before putting the child in, and every one and a half to two hours one of the hot-water bottles is changed for a fresh one. The air passes in by the little trap at T, is heated by the bottles, and, passing by the sponge at E, escapes at A. The movement of the small ventilator at A will show that air passes.

The child should be put in swaddling-clothes, as it has been observed that the temperature is always two or three degrees higher under the clothes than it is in the hatching-machine. It should be from 32° to 33° in the apparatus. Every hour or two, according to the case, the infant should be taken out to feed and change it; but it should only be kept out the shortest time possible. The excellent action obtained by such cradles is shown by the results obtained at the Maternité in Paris. It should be added that infants who are attacked with sclerema, œdema, cyanosis, etc., also derive great benefit from being placed in the hot cradle, and often twenty-four hours will be enough to bring about a decided improvement. Œdema of newly-born infants disappears with surprising rapidity when they are placed in the machine for a short time. From 1877 to 1880, before it was used, one hundred and eighty-one infants died at the Maternité with sclerema; from 1882 to 1885, with the use of the hatching-machine, only nine died.

Since the incubating-cradle has been used, Winckel has advised the use of prolonged warm baths; but we fear it would be difficult to adopt this in practice.

The following table gives the statistics of the Maternité of the number of infants put into the couveuse:

Weight of Child.	No. of Infants.	No. who Lived.	No. who Died.
1000 to 1500 grammes	40	12	28, or 70 per cent.
1501 to 2000 grammes	131	96	35, or 26.7 " "
2001 to 2500 grammes	102	101	11, or 9.8 " "

At the Maternité, before the introduction of the machine the infants died at the rate of sixty-six per cent.; since employing the heated cradle the average proportion is 36.6 per cent.

Credé also obtained good results with his incubating-cradle; but his rate of mortality was much higher than Tarnier's. In the lowest weights he lost 83.3 per cent.; in the next, fifteen hundred to two thousand grammes, 36.5 per cent.; and, taking the

total, he lost 44.6 per cent., and some of his patients were over the weights given by Tarnier, who does not put the heavier children in the hatching-cradle.

Alimentation.—This is a question of the greatest importance in children who are born before term, and Professor Tarnier has adopted a method that we will describe in full. From the very first day an attempt must be made to put children to the breast, and if they are too feeble to suck, the milk may be squeezed into the mouth, or at first on a warm spoon and then given to the child. The mother's or nurse's milk, given pure without dilution or addition, is the best of all things for these infants; but if it cannot be had, then it may be replaced by asses' milk, *not boiled*, but mixed with warm sugared water in equal parts (three grammes of sugar to one hundred grammes of water). If asses' milk cannot be had, then cows' milk must be used for want of a better, and the mixture to be made is then one quart of cows' milk to three quarts of the sweetened water as above. The cows' milk is better boiled; and that boiled in a water-bath closed up is better than boiled in the open air. It is best of all prepared as follows: The mixture of milk and sugared water is put into what is called the "American pot" (which is an air-tight pot used to make beef-tea in); it is then put into boiling water for half an hour, and when taken out the contents should be turned out to prevent the liquid having a metallic taste. It is given to the child with a small spoon, and when the infant is very small six to eight grammes of liquid are enough for a meal, but this may be carried up to ten or fifteen grammes when the infant is larger. There should be at least twelve meals in the twenty-four hours.

"*Gavage.*"—It will often happen that the child will drink badly and throw up half of the liquid given, and, the alimentation then being insufficient, it gets rapidly worse, diminishes in weight, and frequently has diarrhœa, and it is in these cases that Dr. Tarnier practises what he calls "gavage." The apparatus used is quite simple, being nothing more than a urethral sound of red rubber (No. 14 or 16 French according to Charrière). At the open end of the sound is attached a glass nipple, sold in the shops under the name of Dr. Boilly's glass nipple. (A small glass funnel would do.) With this it is easy to use the forced feeding system called "gavage." The infant is placed on the knee, with its head slightly raised; the sound is made wet and introduced as far as the base of the tongue, and the infant by its instinctive attempts at deglutition will make it go on as far as the œsophagus. The sound must be then gently pushed down the œsophagus, and it will readily pass into the stomach. The milk or liquid is then poured into the glass funnel, and by its weight will soon find its way down, and will empty into the stomach. After a few seconds the sound must be taken out, and here is the great point of the system: *it must be taken out with a rapid motion at once,* for if it is withdrawn slowly the milk given will be thrown up after it. The number of meals thus to be given will vary with the age and strength of the infant. As a general rule, eight grammes of milk given every hour will be enough when the infant is small, to be increased as needed. As to the aliment to be used, it is the same as in the usual alimentation. Professor Tarnier gives the preference to mother's milk, which they can press into the glass funnel used. It failing, the other milks may be used as stated before.

When the "gavage" is too copious, a curious phenomenon is produced: the infant augments rapidly in weight and in volume, but it is due to an œdema of the whole body, and, as this will disappear with a more moderate alimentation, it can be explained as a hypernutrition. But if, instead of diminishing the quantity of food, it is maintained or increased, before long indigestion will set in, and the child may perish with gastritis and enteritis. This is the great danger, and success is only obtained by giving the milk in very small quantity and often repeated. When the "gavage" is well done and the milk is not vomited, the infant will digest it well. The fæces are yellow in color, and the child will increase in weight.

When the new-born child gets to be a little stronger, this mode of feeding can be alternated with nursing, and so on progressively until the "gavage" is given up entirely; but it should be resorted to at the least sign of digestive trouble. Even when the child is old enough to nurse, should it be at all weak, it is useful, outside of its regularly taking the breast, to practise "gavage" three or four times a day. This is what M. Tarnier calls *gavage*

de renfort, as it will keep up the strength of the child so that it can take the breast and digest well.

Notwithstanding that this method of gavage is still being studied, from the results at the Maternité and those of lying-in wards in the hospitals in Paris it can be said that it is clearly indicated when the infant is born before term, and even if it does not possess the sensation of hunger, or lacks the necessary strength to eat, it is just the same as with the adult: the food introduced artificially into the stomach of the new-born infant will be digested.*

Thanks to the employment of the two methods of "gavage" and the Tarnier hatching-machines for the last few years, infants were raised that had been only six months, or six months and a few days, carried in the uterus. So that at last the actual period of vitality has approached the legal period, which in French law is six months of intra-uterine life. So far very few six-months' children have been saved in France.

ORIGINAL COMMUNICATIONS.

ON PLACENTA PRÆVIA.

Read before the Oxford Medical Society

BY C. P. JACKSON, M.D.

BY placenta prævia is meant that condition of affairs where the placenta is attached to the lower segment of the uterus, covering either partially or completely the os uteri; or, it may be, only coming down to the edge of the cervix.

This accident of pregnancy was known as early as the time of Paré,—in the beginning of the sixteenth century. Guillemeau, Mauriceau, Deventer, Pugh, and others were all acquainted with the fact that the placenta was sometimes found at the os uteri; but they supposed that in these cases it had become detached and had fallen down from its normal situation. Paul Portal was the first who had any accurate knowledge of the subject and recognized the necessity of delivering by art. To him undoubtedly belongs the honor of the original discovery of this abnormal insertion. In his work, which appeared in 1685, he described six cases in which "the placenta presented, was in entire contact with the orifice of the womb, and was adherent throughout." After the time of Portal his discovery appears to have been lost, and the "great obstetrical lights of the eighteenth century" (as Thomas calls them) had to grope their way to the truth. Deventer was among the number who, having noticed that the placenta still adhered by one margin to some point of the periphery of the cervix, considered the adhesion to be only accidental, and merely caused by clotted blood. He was not far from the great discovery, however, when he said, this "sometimes glues the placenta so closely to the orifice that it might be mistaken for an excrescence of the part."

Giffard, Roederer, Smellie, and Levret, in the middle of the century, almost simultaneously rediscovered Portal's discovery. To Dr. Rigby, of Norwich, however, belongs the credit of clearly and fully elucidating the subject. From him we have received the term "unavoidable hemorrhage."

This accident, in common with most other ills to which human flesh is heir, has been ascribed to various causes by different observers. Tyler Smith supposed it to be due to the ovule not having been impregnated until it reached the lower part of the uterine cavity. This is the view that Dr. Penrose holds, or did hold a few years ago. As proof of this, I remember his bringing forward statistics of the Jewish people, who, if the theory were true, should furnish an unusually large proportion of such cases, on account of the restrictions of the Levitical law. This he proved to be a fact, I believe.

Cazeaux inclines to the opinion that the mucous membrane is less swollen and turgid than when impregnation occurs at the proper place, and therefore offers less obstruction to the descent of the ovum. Schroeder also says an abnormal smoothness of the uterine wall caused by a previous leucorrhœa may be the occasion of the accident. Age has been advanced as a probable cause of the mishap under consideration. In the statistics of two hundred and forty cases of placenta prævia collected from the physicians of the State of Indiana by Dr. Enoch W. King,† the

* Professor Tarnier has lately tried a mixture of asses' milk in equal parts with meat soup, but the experiment is too new yet to detail it. However, the results are encouraging when the child cannot digest and has diarrhœa.

† See Amer. Journal of Obstetrics, October, 1880.

ages of one hundred and fifty-seven only are given. These he has classified in five-year periods. From his table we find that the largest percentage of cases occurred in the five-year period from twenty-six to thirty; but nearly as large a proportion occurred in each of the periods from twenty-one to forty inclusive, amounting in all to about ninety-two per cent.

Now, if it be true, as has been stated, that about nine-tenths of all obstetric cases occur within this limit, we are justified, I think, in the conclusion that age has little influence in the causation of this troublesome complication of labor.

Another cause which is said to predispose to unavoidable hemorrhage is an abnormal size of the uterus. Hence the greater frequency after several pregnancies. Playfair inclines to this theory, but Dr. Harris, in editing the last American edition of Playfair's "System of Midwifery," says, "The belief in the greater frequency after several pregnancies is not well founded." And these are the grounds for his objection:

Dr. King reported one hundred and eighty-three instances where the pregnancy at which the placenta was prævia is stated. In the first pregnancy there were ten per cent. of cases; in the second, sixteen per cent.; in the third, sixteen per cent.; in the fourth, eleven per cent.; in the fifth, fourteen per cent.; in the sixth, ten per cent.; in the seventh, eight per cent.; in the eighth, five per cent.; and in the ninth, two per cent. This really begins to look as though Dr. Harris were right. But in Simpson's obstetrical works there is a table (cited by King) giving an approximation of the percentage of deliveries which occurs in each pregnancy. This estimate is thirty per cent. of deliveries for the first pregnancy; while we have seen from King's report that the cases of placenta prævia amount to only ten per cent. for the corresponding pregnancy. Following out the comparison of the two tables, we find that, though there is a gradual falling off in the percentage of placental presentations as the number of the pregnancy increases, there is a still greater diminution in the proportion of deliveries. Thus, it is not until we reach the third pregnancy that the percentage of abnormal placental insertions exceeds the proportion of deliveries, and then only by one per cent.; while in the sixth pregnancy the cases of placenta prævia amount to ten per cent., the deliveries to only five per cent.; in the seventh pregnancy, placenta prævia eight per cent., deliveries three per cent., and so on; thus, in the language of Dr. King, "quite conclusively showing that placenta prævia *does more generally occur in women who have borne several children.*" So far at least as any practical results are concerned, we are as far from the truth of the matter as were those inquirers at the beginning of the sixteenth century, the simple fact remaining that once in five hundred or six hundred cases the placenta is grafted either partially or completely over the external orifice.

Although the previous placenta of necessity occupies its site from the first moment of its formation, it rarely gives rise to any appreciable symptoms before the last three months of utero-gestation. It is probable, however, that an abnormal insertion sometimes produces abortion in the earlier months of pregnancy without its site of attachment having been suspected. The first symptom which causes suspicion is the sudden occurrence of hemorrhage without any appreciable cause. The amount of blood lost varies considerably. The first hemorrhage may be slight, in some instances ceasing spontaneously, only to recur, however, after a varying interval,—it may be a few days or it may be weeks,—each successive hemorrhage being more profuse. Hemorrhage seldom occurs before the end of the sixth month, often not until the ninth, and it may not occur until labor has commenced. Flooding is very liable to make its appearance on what would have been a menstrual period, probably on account of the physiological congestion of the uterus at that time. Should the first loss not show itself until near full term, it may be so great as to put the patient in imminent peril of death before assistance can be procured. Indeed, when hemorrhage has once occurred the patient is never safe, for excessive losses may occur at any moment when professional aid is not at hand.

An increased flow of blood during the pains of labor has long been looked upon as a diagnostic mark by which to distinguish between unavoidable and accidental hemorrhage; but, according to Playfair, "this distinction is altogether fallacious."

Though the pains do to a certain extent augment the sanguineous flow by detaching fresh portions of placenta, yet the immediate effect of the contractions here, as in all other forms of uterine hemorrhage, is to constrict the lacerated vessels and so lessen the flow, the apparently increased flow being due to the forcing out of blood which has already escaped from the vessels. Once our suspicions have been aroused by unaccountable hemorrhage, a vaginal examination becomes imperative.

If the os be sufficiently open to admit the finger, as it usually will be on account of the relaxation caused by the depletion, we shall usually be able to make out some part of the presenting placenta, though, if the os be high and gestation not far advanced, it may be necessary to insert the whole hand into the vagina. If the implantation be central, we shall find the os covered with a boggy mass more dense and less friable than a coagulum, yet offering less resistance to the finger than a fœtal presentation; in short, we shall find conditions presenting the digital eye of the explorer with a scene altogether characteristic of the accident under consideration. If the insertion be lateral, the bag of membranes, and above it the presenting head or other part of the fœtus, will be found occupying a part of the circle of the os, the rest being covered by the placenta. The lower portion of the uterine ovoid may in some cases be found unusually thick, and, according to Gendrin, ballottement cannot be made out. Doubtful cases may be cleared up by finding the placental bruit over the lower uterine segment. Dr. Wallace has even gone so far as to propose vaginal auscultation by means of a curved wooden stethoscope.

The source of the hemorrhage has long been a moot point. Sir James Y. Simpson maintained with much energy that the source was the detached portion of the placenta; that the blood flowed from the adherent into the detached portion, and escaped from the surface of the latter. Drs. Radford, Kinder Wood, and others held the same opinion, and on this supposition based their plan of complete separation of the placenta. That hemorrhage usually ceases on complete separation of the placenta is not doubted, but Simpson's explanation of it is contested by most modern writers, especially by Barnes, the success of *his* modification of this plan clearly proving the fallacy of Simpson's theory. Furthermore, Dr. Mackenzie proved beyond doubt, by a series of experiments in which he partially separated the placentæ in pregnant bitches, that the blood flowed from the uterine wall, principally from the large venous sinuses, the arrangement of which specially favors hemorrhage when torn across, and possibly to some extent from the uterine arteries, just as in post-partum hemorrhage after the placenta has been entirely detached.

The cause of the hemorrhage has also been the subject of much discussion and difference of opinion. The earlier observers of this accident ascribed it to separation of the placenta from expansion and retraction of the cervix during the latter months of gestation,—an instance of good logic from false data, the shortening of the cervix being only apparent, not real. The theory of Jacquemier (endorsed by Cazeaux) supposes a loss of relation between the cervix and the placenta. He maintains that during the first six months of pregnancy the superior portion of the uterus is more especially developed; that the placenta also attains its maximum of development in the same time. So, when attached in its usual situation, there is no loss of relation in the development of the organs. On the other hand, during the last three months of pregnancy the lower segment of the uterus is more especially developed, while the placenta remains nearly stationary; thus, when attached to the cervix, the cervix grows away from the placenta. Barnes's theory differs from this in that he supposes the loss of relation to be due to an excess of growth of the placenta itself over that of the cervix during the latter months, the objection to both these theories being that hemorrhage often does not take place until labor has begun.

Playfair says that uterine contractions are constantly occurring during the continuance of pregnancy; that there is reason to suppose that these do not affect the cervical as well as the fundal portion of the uterus; that in cases where the placenta is placed either partially or completely over the os, one or more of these contractions, stronger than usual, may produce laceration of the placental attachments in that neighborhood. While Matthews Duncan claims that the causes

of hemorrhage in placenta prævia are precisely the causes that give rise to the occasional hemorrhages when the placenta is normally placed; that before labor has actually commenced the losses are strictly accidental; and that it is only at full term that they can with propriety be called unavoidable.

In the onward march of medical science the faithful follower of Hippocrates should not be confused by the din of conflicting theories; but at every cross-roads and at each divergent path let his eye be fixed on that deft though silent guide, nature.

Let us see, then, what are the ways in which nature seeks to relieve the unhappy victims of this accident. Of the cases reported by King, nearly forty-eight per cent. were spontaneously premature, with a mortality to mothers of fifteen per cent.; while the mortality in his entire collection was twenty-two and a half per cent.

Now, if it be understood that these favorable results were obtained without the patient's having been from the beginning under the careful supervision of the medical attendant, and that in many instances nature was only aroused to action after the woman had been debilitated by repeated losses of life's fluid, it will the more clearly appear how strong is the indication to follow nature; and yet, so far as I can learn, the medical world at large has given little attention to this most important point. Let us take a view of the surroundings. Here we have an appalling calamity, the mortality from which is about as great as that from the capital operation of ovariotomy. Can there nothing be done to render our prognosis more favorable in these cases? What *has* been done in the centuries past? Says Dr. Robert Lee, in 1845, "The most distinguished practitioners, from the days of Ambroise Paré to the present time, have universally recommended and practised turning in placenta prævia." What was the result? Simpson published a table of three hundred and thirty-nine cases collected from the records of a dozen or more such eminent men as Mauriceau, Gifford, Smellie, Rigby, Ramsbotham, Lee, etc., in which the mortality was one hundred and thirty-one, or about one in three.

It is true that Lee accuses Simpson of "several great inaccuracies" in his table, and also of omitting to mention Portal's eighteen cases (seventeen of which were delivered by turning) with only one death. But how shall we account for Portal's success? Was he, in the seventeenth century, so vastly superior in obstetric skill to all his followers down to the nineteenth century? or had he made some other discovery (lost to his successors) to which his success was due rather than to the mere operation of version? However the case may be, until within the last decade at least there have been no statistics, so far as I know, which could approach to his in benignity of results.

It is true that Simpson published (in the *London and Edinburgh Monthly Journal of Medical Science* for March, 1845) a collection of one hundred and forty-one cases in which the placenta was detached and expelled before the child, with a mortality to the mother of ten, or one in fourteen. This is a higher death-rate than that of Portal, but, compared with other statistics, it still makes a most excellent showing. It has this disadvantage, however: these were not consecutive cases occurring in the practice of one or more physicians, but they were collected from here and there through the whole field of obstetrical literature for the purpose of proving a pet theory, and the chief objection to their reception is that most if not all of these were cases in which there were strong expulsive efforts on the part of the mother, and nature was quite able to take care of herself without the intervention of art. Such statistics are not worthy of full credit; and the test of years has not realized the enthusiastic hopes of Sir James Simpson. The treatment of these cases, as laid down in the various obstetrical text-books, is something on this order: on the occurrence of hemorrhage, having made a diagnosis of placenta prævia, place the patient on a hard mattress in a cool, well-ventilated room; do not heat or overburden her with clothes; keep her absolutely at rest; administer cool, acidulated drinks, with acetate of lead and opium or gallic acid; apply cold cloths, or even ice, to the vulva, lower part of the abdomen, and thighs,—in short, temporize until labor be forced upon you, then plug the vagina while the os dilates, give ergot if you please, and as soon as practicable or safe rupture the membranes, detach the placenta, or deliver by turning or the forceps, according to your preconceived notions or the nature

of the case. What are the results of this mode of procedure? According to different authorities, one in every three, every four, or every five, mothers perishes, while more than one-half of the children are lost.

According to King's statistics, the mortality from all methods, taken as a whole, was twenty-two and a half per cent. The mortality from all cases treated by ergot was sixteen per cent.; by rupture of the membranes, eight per cent. (these were nearly all favorable cases); by complete detachment of placenta, eighteen per cent. (but here seventy-seven per cent. of children were lost; by tampon, twenty-five per cent.; by forceps, thirty per cent.; by version, twenty-three and a half per cent. Thus have all these measures been weighed and found wanting! Can the skill of man devise nothing that shall lessen the mortality of this fatal accident?

In 1837 Dr. Renton wrote, "Portal in 1672 knew as much on the subject of uterine hemorrhage occasioned by displacement of the placenta from the os uteri, and of the practice necessary for its suppression, as we do at the present time."

In 1837 this was true: in fact, it was less than the truth. In the light of our present knowledge, I ask, Did he not know more?

Hitherto I have only spoken of the treatment of placenta prævia when it is thrust upon the physician in all its horrors,—perhaps at full term, when the uterine sinuses are prepared to send forth a terrible deluge of blood; or, it may be, after the patient has been exsanguinated by small, though repeated, losses; after the well-meaning but ill-advised efforts of the physician have kept the poor victim in a darkened room for weeks or months (through some imaginary benefit that is to accrue to mother or child), until her vital powers have reached so low an ebb as to be unable to survive the shock of labor. But, thanks be to those lights of our profession who have not forgotten to look up to and follow in the footsteps of Mother Nature, a better state of things has begun to be inaugurated! Cure the wretched evils proceeding from this insidious enemy, when given full sway, we cannot; crush them in their incipiency, in great measure, we may.

Induction of premature labor as a prophylaxis of placenta prævia was first introduced into practice by Dr. Robert Greenhalgh, of London. In 1864 he read a paper ("Practical Remarks on the Treatment of Placenta Prævia") before the Obstetrical Society of London, in which he strongly advocated this mode of treatment.

Drs. Barnes, Hicks, Hewitt, Beatty, and Oldham all took part in the discussion which followed, and it would appear from their remarks that they were all more or less familiar with the practice he recommended, several of the gentlemen stating that the principle had been admitted by men of experience, but had not been laid down in the obstetrical text-books, while Dr. Beatty said there was not much difference between Greenhalgh's practice and the usual practice in Dublin. "And yet," says T. Gaillard Thomas, "I know of no work, essay, or text-book which gave this advice at any time previous to the appearance of Greenhalgh's paper." Let us see what are the results of this practice. The statistics are few, and therefore may be misleading, but so far as they go they are certainly very encouraging.

In an excellent paper on the subject (see *American Practitioner*, vol. xv.), Dr. Thomas reports eleven cases in which he induced labor by means of Barnes's dilators on the first occurrence of hemorrhage. He speaks of three of his patients as being primiparæ, of seven as multiparæ, and of one he speaks somewhat ambiguously as a young woman. Six children (an unusually good average) and all the mothers but one were saved. Case IX., a multipara, died on the fourth day after delivery, of septicæmia. Since this can hardly be looked upon as a direct effect of placenta prævia, I think we may regard this as a report of eleven consecutive cases without a single death.

From a careful study of the foregoing facts and figures I arrive at the following conclusions:

1. Having been summoned to attend a case of ante-partum hemorrhage, it is necessary to make a most thorough examination as to its cause.

2. Supposing the diagnosis of placenta prævia has been made, it is the duty of the physician to ascertain whether the child be viable: if not, the mother's physical condition warranting, and her domestic relations and pecuniary status not positively contra-indicating, temporize until the child arrive at the age of viability.

3. The child being viable, induce labor at once, and so protect the patient from the danger of sudden, exhausting, and, it may be, fatal hemorrhage. The induction of labor is best brought about by the use of hydrostatic dilators, preceded, if need be, by a sponge-tent.

The os being well dilated, complete labor by rupture of the membranes, version (using bimanual method if possible), the forceps, or separation of the placenta, according to existing conditions and the necessity for expedition.

Oxford, Chester County, Pennsylvania.

THE BACILLUS TUBERCULOSIS AND THE BUSY PRACTITIONER.

BY J. L. ELLIOTT, M.D.,
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EVER since the discovery of the bacillus tuberculosis by Koch there have been many who doubted whether any practical benefit would be derived from the discovery. But after five years' quite extensive experience with the bacillus and its relations to tuberculosis, the most advanced thought and highest authorities in the medical profession tell us that there is a definite relation between them. These authorities are widely at variance as to whether the bacilli are the cause or only an accompaniment of the disease. They are, however, pretty well agreed upon two points,—viz. :

1. That when the bacilli are present in the sputum they become positive evidence that such sputum comes from a tuberculous centre.

2. That their number, when present, is as index of the rapidity with which the disease is progressing.

It is to be regretted that there is any chance for disagreement upon the question, but that should not deter us from putting to practical use the settled points, leaving the other for future investigation to decide.

Now, if the doctrines as taught us are correct, every practitioner of medicine should be able to stain and recognize bacillus tuberculosis. The writer is satisfied, however, that altogether too few practising physicians make any use whatever of the microscope as an aid in the diagnosis and prognosis of tuberculous disease, and it is this very fact which has prompted the writing of this article. It has been for some time apparent to workers in this field that the whole bacillus tuberculosis question stood in need of a practical turn,—that is, it should be shorn of so much technicality, and brought within the range of the every-day busy practitioner. For if the discovery of Koch is of practical importance to mankind, it can only be made manifest by practitioners of medicine acquiring a knowledge of the subject sufficient to enable them to make practical use of it.

Heretofore the methods of acquiring this knowledge have been accompanied by difficulties which professional microscopists do not seem to overcome. Physicians engaged in the practice of medicine who seek for information upon any topic pertaining to their profession must, in most cases, rely upon current medical literature. Now, we all know this country is flooded with the latter, of uniformly good quality too, yet the writer must confess that nearly every article on staining and identifying bacillus tuberculosis with which he is familiar has certain defects which must certainly limit its usefulness. There is too much technicality for physicians in general to follow understandingly. The illustrations usually represent the bacilli magnified eight hundred or twelve hundred diameters, which gives them an appearance altogether unlike that seen by the aid of the low powers. The staining process described is tedious, requiring two to twenty-four hours to execute. Nothing is said of the expense of equipping one's self for the work, or how to obtain chemicals of reliable quality. So that the process as usually described is so complex, tedious, and indefinite that no doubt many are discouraged at the outset, and many more, to his certain knowledge, fail to get any results at all when they attempt to execute the work as described. Some microscopists, who habituate themselves to the use of high powers, many accessories, etc., seem to entertain the belief that simpler methods will not give just as good results. For instance, Dr. Formad, an eminent pathologist and microscopist, in his series of articles on the bacillus tuberculosis question, says the following: "The second advantage resulting from the bacillus theory may be that physicians may become induced to make more use of the microscope in diagnosis; yet in this respect the general use of the microscope is hardly

practicable, on account of the thorough technique and experience required."*

The writer does not wish to criticise this class of teachers: with them scientific accuracy and its accompanying technique are second nature, and their work is very important to scientific medicine. It is unfortunate, however, for the profession that the subject is kept in such a complex state. The writer claims that the process may be so simplified that, with a little skill and very moderate outlay for apparatus, any physician can determine the presence or absence of bacillus tuberculosis in sputum, and that, too, in as short a time as fifteen or twenty minutes. This may be accomplished by observing the following details.

The Microscope and Accessories.—Any ordinary stand will do, as long as the fine adjustment works well; a high-power objective is not necessary at all. The writer has been surprised to find so many able workers with the microscope who claim that a high-power objective is indispensable. A friend who served a term in hospital, where he had every facility for such work, and thereby gained a large experience in staining bacilli, wrote after he began to practise medicine that he did nothing in the way of staining bacilli since leaving the hospital, because he had no high-power objective. For all practical purposes, a good one-quarter inch glass (Spencer's students' series, for instance) is all that is needed; a one-sixth inch is a little nicer, but it is not necessary. The writer has even been able to see the bacilli with a first-class Spencer's one-inch objective.

With his one-fourth inch objective he uses a one-inch ("C") eye-piece. Now, a great many physicians have a fairly good stand and the above-named glasses, and yet they do not stop to estimate whether they have the requisite power to identify bacillus tuberculosis.

Staining and Mounting.—There are quite a variety of methods: some comparatively simple, others quite tedious and complicated. The one best suited to the use of the physician is the one which is perfectly reliable, and at the same time quickly executed. The writer has tried many methods, but the one he is about to describe is the one which has proved to be most reliable.

The apparatus needed are a light pair of forceps, a spirit-lamp (or Bunsen burner), a beaker glass (or tumbler), a watch-glass, bottle of glycerin, slides, and cover-glasses. Nearly every physician has these already on hand. The chemicals needed for staining are a saturated solution of aniline oil in water, a saturated solution of fuchsine in alcohol, a two-per-cent. solution of hydrochloric acid in alcohol. Now, few retail druggists will be apt to have the aniline oil and fuchsine in stock, but they may be ordered from Messrs. Lehn & Fink, importers, of New York, in a short time. It is very important to have these two chemicals of first-class quality, or else no results will be attained, and the writer feels thus in duty bound to mention the above-named firm on this account, knowing they would send out no inferior goods. The necessary quantities of the above-named solutions one would need to work with should not cost over seventy-five cents or one dollar, so that the whole outlay for working material is only a trifle.

The process is applied as follows. Try to obtain a thick portion of sputum which the patient has coughed up from the lungs. Spread a thin layer on a cover-glass and allow it to dry. Some difficulty may be encountered in spreading a thin layer of sputum evenly over the cover-glass; a little practice by the following method will give good results: place with forceps a small portion of thick sputum on the centre of the cover-glass; next press the cover-glass with the sputum against a glass slide; this will flatten the sputum out into a thin layer; now draw the cover-glass away from the slide, always keeping their surfaces parallel while doing so. Next pour a watch-glass nearly full of the aniline-oil solution, add to this from five to ten drops of the fuchsine solution; next lay the cover-glass, sputum side down, on the surface of the staining solution. Now hold the watch-glass containing the stain and cover-glass over the spirit-lamp and heat gently for three or four minutes; the degree of heat needed here is just sufficient to cause vapor to rise from the liquid. Remove the cover-glass from the stain. Wash away the excess of staining solution with water, then wash in the hydrochloric-acid solution until decolorized or nearly so; wash again in pure water, touch the edge of the cover-glass to blotting-paper to remove the excess of water, then lay upon blotting-paper and allow it to dry.

* Philadelphia Medical Times, vol. xiv. p. 337.

Place a drop of glycerin on the centre of a glass slide; heat it a little to remove any air-bubbles which may be present; place the prepared cover-glass carefully on the slide, and allow the glycerin to spread out and form a thin layer between slide and cover-glass. Right at this point a little patience and experience will be required sometimes, when it is desired to make a permanent mount, to get the exact amount of glycerin necessary to spread to the edge of the cover-glass, and no more. A little experience will soon enable one to estimate pretty accurately the size of drop required. Should too much be used, the excess can be removed from the edge of the cover-glass with strips of blotting-paper; should too little glycerin be used, a drop placed at the edge which lacks enough will flow under the cover-glass and meet the portion first used.

The slide is now ready for examination. If bacilli tuberculosis are present in the sputum stained, careful focussing will show them distinctly as dark-colored, curved, slender rods. When the bleaching process has been incomplete, so that the epithelial cells, pus-corpuscles, and débris of broken-down lung-tissue all retain the coloring-matter, the bacilli are still easily seen, being darker in color and more regular in outline.

One more point the writer wishes to call attention to. He has frequently failed to find any bacilli whatever after making several mounts; then, from the same lot of sputum, a portion from another part of the dish would be tried and the bacilli found in great numbers: so that before one can exclude their presence samples must be tried from all parts of the containing dish.

If it is desired to preserve the slide, a ring of zinc-white cement can be run on the edge of the cover-glass, and the mount will keep indefinitely.

[Dr. Elliott has kindly sent us a slide prepared in the manner described, which certainly leaves nothing to be desired: it could not be surpassed by any method.—Ed. *P. M. T.*]

Chronic Constipation.—The rational treatment of chronic constipation consists, according to Dr. J. K. Spender, in avoiding powerful purgatives, administering aloes and iron, and an occasional saline, with a liquid diet and exercise.—*The Practitioner.*

REPORT ON RECENT STUDIES ON DISEASES OF THE CIRCULATORY APPARATUS.

BY J. P. CROZER GRIFFITH, M.D.

THE PULSE.

Broadbent, in the Croonian Lectures (*British Medical Journal*, 1877, 655, 707, 763), says the pulse is with propriety taken at the wrist because the circulation of the hand is not affected by disturbances of special function. The pulse is not produced by an expansion of the artery, as is so often taught, nor by an elongation of the vessel throwing it into curves. The real cause is a sudden change of the artery from a flaccid and somewhat flattened condition to a cylindrical shape. This is brought about by the increased pressure from ventricular contraction. Nor is it the case that the pulse indicates an onward flow of blood through the vessel, or that the strength of the pulse is proportionate to the rate of movement of the blood. It is simply a record of the minimum and maximum pressure, with the degree of difference between them.

There are three factors in the production of the pulse:

1. *The action of the heart.*
2. *The elasticity of the great vessels.*
3. *The resistance of the arterioles and capillaries.*

1st. The first of these determines absolutely the frequency and regularity of the pulse, except in cases where there are more heart-beats than appreciable pulse-waves. The strength of the pulse, too, will depend on the power of the systole combined with the volume of blood entering the aorta.

2d. The second factor converts the intermittent jet of blood into a more or less continuous stream. Dicrotism of the pulse is produced by the elasticity of the great vessels, especially when combined with low tension of the peripheral circulation and a sharp contraction of the heart. High arterial tension or inelasticity of the great vessels from degenerative changes is incompatible with the occurrence of dicrotism.

3d. The third factor possesses the greatest influence on the character of the pulse. Together with the force of the heart, it determines the *mean tension* in the arterial system, measured by the degree of resistance of the artery between the pulse-beats.

The higher this mean tension, the less the difference between the maximum and minimum tensions,—*i.e.*, the less marked is the pulse. And the converse of this is of course true.

The author then enters upon the consideration of the variable tension—the pulse. Although he admits the advantage of the sphygmograph in many instances, yet it is liable to so great irregularity in the tracings it produces that he confines himself chiefly to the consideration of the pulse as it is perceived by the finger. When there is but little resistance in the peripheral vessels, the pulse is sudden and sharp, and of short duration; while with high tension the pulse-wave rises gradually and is of longer duration. This prolongation of the pulse-wave must not be confounded with the fulness of the artery between the beats.

In a systematic examination of the pulse it is necessary to notice:

(1) The *number* of beats per minute, their *regularity* and *equality*.

(2) The *size* of the artery. This is very variable in different persons, the difference being either congenital or induced by physiological or pathological influences. A large artery communicates a more perceptible impulse to the fingers touching it lightly, and the beat is stronger; but the pulse-wave can be more easily stopped by pressure. In a small vessel the impulse may seem weak, but often grows stronger when compression is attempted.

(3) The degree of constant pressure,—*i.e.*, the *tension*. This is tested by trying to roll the artery under the fingers. In a pulse of average tension the vessel seems to stand out only during the actual beat, and subsides gradually, though it may generally be distinctly felt between the beats. If the tension is low, the vessel can scarcely be felt at all except just at the moment of the beat. In high tension, the artery can be plainly seen and rolled about under the fingers. Yet the pulsation in it is often scarcely perceptible except under firm pressure.

(4) The *character* of the pulse: whether its access is sudden or gradual, its duration short or long, and its subsidence abrupt or slow.

(5) The *strength* of the pulse. This is estimated by placing three fingers (as always) upon the artery, and with the one or two nearest the heart determining what degree of pressure must be exerted to obliterate the pulsation felt by the other finger.

(6) *The state of the arterial walls*. This may be examined either by rolling the vessel or by carrying the skin along it longitudinally in search of inequalities, curves, calcareous patches, etc.

(7) *Dicrotism;* which is tested by allowing the fingers to rest with uniform, gentle pressure on the vessel. The physiological dicrotic wave will be felt like an echo of the principal one.

There seems to be no constant relation between differences in the circulation and the bodily or mental character, and even modifications of the circulation in disease are oftener the effects than the cause. It would be impossible to consider all the indications afforded by changes in the pulse. The author therefore confines himself to points regarding the pulse which illustrate either effects of circulatory derangements or advances in our knowledge from the investigations of recent years. He takes up—

I. Deviations from normal frequency and abnormalities of rhythm.

II. Variations of tension; their causes, consequences, and therapeutic indications; together with the *pulse of heart-disease*.

III. The pulse and cerebral affections.

I. DEVIATIONS FROM NORMAL FREQUENCY.

Increased pressure in the arterial system tends to slow the pulse-rate, and conversely. Yet nervous influence has a far more powerful influence. Almost all departures from the normal state of health are attended by increased pulse-rate. There are, however, cases in which increased frequency of the pulse constitutes itself the disease.

Persistent Frequency of the Pulse.—This condition is due to overstrain of the heart from continuous exertion. It is often called "irritable heart." With the rapid beating of the heart are associated breathlessness, nervousness, faintness, incapacity for exertion, and high arterial tension. The great remedy is rest in bed for one to three weeks. In middle life, a single act of excessive exertion may bring on persistent frequency of the pulse, associated with high tension and perhaps with irregularity.

Paroxysmal Palpitation.—This condition is most commonly a cause of suffering

and danger late in life. It may or may not be associated with heart-disease, and is at any rate rather a complication than a consequence of such disease. The exciting cause—such as indigestion, emotion, the act of taking food, change of position, etc.—acts by producing a sudden relaxation of the arteries, with a consequent diminution of the ordinary resistance, and, as a result, the heart then starts off in violent palpitation.

Another form of palpitation of extraordinary rapidity, and lasting for days or months, is due to some obscure neurotic influence. It may occur at any age, though more common after middle life. There is a tendency to venous stasis. The pulse is vibratory, and gives the impression of but little onward movement of the blood, showing either that the ventricle does not empty itself and is dilated, or that it remains dilated and does not fill in diastole. The latter is more probable, since the cardiac impulse is often very powerful. Sooner or later sudden death is the result. The author reports several very interesting cases.

Infrequent Pulse.—Pressure on the abdominal aorta or large arteries, renal disease with high arterial tension, jaundice, and some nervous affections have some effect in slowing the pulse, but the reduction is not striking. In some rare instances a real infrequency of the pulse (below forty per minute) is found coincident with perfect and vigorous health.

Very closely associated with the simple infrequent pulse is the *bigeminal pulse*. In this the pulse-waves and heart-beats are in couples: a strong beat being followed by a weaker one. Closely related to this is the condition of *dropped beat*, there being two beats of the heart to one of the pulse. Though so nearly allied, Broadbent has met with but one example, in the absence of valvular disease, in which any transition occurred. When, however, valvular disease, especially mitral stenosis, is present, the bigeminal pulse may be a transitional stage in the return from the dropped-beat condition to a normal action.

Treatment by digitalis in mitral stenosis is peculiarly liable to produce one or the other of these phenomena. Broadbent does not agree with Tripier that epilepsy, in the absence of mitral stenosis, is ever the cause of the dropped beat, but reports cases to prove that an infrequent pulse, with or without abortive beats, may induce epileptic or syncopal attacks by slowing the circulation and producing cerebral anæmia.

The study of the heart-sounds in cases of dropped beat is most interesting, and would sometimes seem to prove that there was an alternating action of the ventricles. It is admitted that this phenomenon never occurs; but it is certain that in the dropped-beat condition the right heart contracts effectually in both beats, while the left heart succeeds in raising the aortic valves in the first beat only. It is evident that this extra action of the right ventricle may be most useful in mitral stenosis.

Intermittent and Irregular Pulse.—Occasional or habitual intermission of the pulse, associated with a hurried and imperfect beat of the heart, is perfectly compatible with health, but may be an indication of fatty degeneration of the heart. Brisk walking up and down in the room will usually remove the intermission in the first case, but make it worse in the second.

Marked irregularity of the pulse is oftenest seen in mitral regurgitation and in dilatation of the ventricles. That mitral insufficiency is the only one of all the valvular lesions in which it occurs is to be explained, the author thinks, on mechanical grounds: namely, by the varying pressure on the left auricle during respiration, combined with the incompetency of the valve. Any affection of the respiratory apparatus, as bronchitis or emphysema, increases the irregularity. Irregularity of pulse dependent on nervous influence is seen in dyspepsia and from the abuse of tobacco, but it may occur habitually without any discoverable cause.

(To be continued.)

TRANSLATIONS.

EXPERIMENTS UPON LOSS OF BODILY WEIGHT.—At a recent meeting of the Paris Biological Society, M. Ch. Richét showed tracings obtained by registering apparatus which show the loss of weight occurring in animals during a given time, independently of the ponderable excretions. M. Constantin Paul at a subsequent meeting described an apparatus which he had employed for weighing human beings at the Hôpital Lariboisière.

This apparatus, which is attached to a large weighing-machine constructed on the Quintenz system and capable of weighing a patient in bed, registers the variations of weight which occur. M. Redier, who superintended the clock-work section at the Paris Exhibition of 1878, constructed a most ingenious apparatus for this purpose. This apparatus is composed of two cylinders which are inserted into each other; one of these is attached to the weighing-machine, the other is attached to the registering apparatus. A double clock-work movement causes the inner cylinder to rise or fall according to the greater or lesser variation of weights placed on the weighing-machine, and maintains the weighing-machine in constant equilibrium.

At the same time the variations of weight are inscribed on paper lined in squares, and a clock-work action makes this paper turn so as to inscribe the movement of these variations and their duration. This apparatus thus registers in a continuous manner the weight of objects placed upon the tray of the weighing-machine. It may be employed for weights of sixty or seventy kilogrammes. The registration of these inscriptions is first made with determined weights or with variable weights. It may thus be determined whether the machine has registered correctly the weight of a burning candle or lamp, of a nosegay as it evaporates from it the water in which it is placed, etc. If a man who is in good health is placed upon the weighing-machine, it will be found that he loses about forty grammes an hour. The loss of weight in a convalescent is inconsiderable. But a patient who has become cachectic through phthisis, diabetes, cancer, organic disease of the heart, etc., loses much more in weight. In the case of a man in good health a remarkable fact has been observed,—viz., that at times he increases slightly in weight. M. Paul concludes that a healthy human being absorbs elements from the atmosphere, such as nitrogen or carbon, which he retains.

Elimination of Carbonic Oxide.—M. Zaleski, of Dorpat, has recently published the result of his researches concerning the elimination of oxide of carbon by animal organism. Oxide of carbon, introduced into the abdominal cavity, has not a sufficiently toxic effect to cause the death of an animal. From the abdomen this oxide is absorbed by the blood, as when this gas is absorbed by direct respiration into the lungs.

When introduced into the abdominal cavity, its presence is detected in the products of respiration; the entire quantity absorbed may not be found, but a large proportion is observed. Blood which is saturated with oxide of carbon, injected into the abdominal cavity, is absorbed in the same way as normal blood.

Oxide of carbon which is contained in injected blood mixes with the blood of the vascular system, but in every case its combination with hæmoglobin cannot be proved. In the case of an injection in the abdominal cavity of blood saturated with oxide of carbon, it is impossible to meet with this oxide in the products of respiration by means of the chloride of palladium test.

Whooping-Cough.—Herff (*Deutsche Med. Zeitung*) found in his own person that there is slight degree of inflammation of the larynx in whooping-cough, and that the special spot of greatest hyperæsthesia was in the interarytenoid region. A Norwegian physician, Mohn, has found fumigations of burning sulphur to be of great service. The paroxysms are controlled by the use of cocaine internally (gr. v to xij daily), and by local applications to the throat, or even to the nasal mucous membrane.—*La France Médicale.*

Compound Wine of Creasote for Pulmonary Disorders.—The following is prescribed for incipient pulmonary tuberculosis where the temperature is not much above normal:

℞ Creasoti, 13 G.;
Tr. gentianæ, 30 G.;
Spt. vini, 250 G.;
Vini Xerici, q. s. ad fiat 1000 G.
M.

Sig.—Two or three tablespoonfuls to be taken during the day.—*Revue Générale de Clinique et de Thérapeutique.*

Local Revulsive Action of Iodine.—If a piece of absorbent cotton wet with tincture of iodine be held in contact with the skin, any desired amount of revulsive effect may be obtained, even to blistering or the formation of an eschar.—*La Normandie Médicale.*

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EDITORIAL.

THE DIAGNOSIS AND TREATMENT OF CYSTS OF THE PANCREAS.

IT is scarcely more than half a decade since cysts of the pancreas began to excite the interest and attention of surgeons and gynæcologists. In fact, errors of diagnosis, by which enormous pancreatic cysts were mistaken for cysts of the ovary, first brought the former within the boundaries of surgical diagnosis and treatment. Prior to 1881 pathological anatomy had recorded no such growths. Rokitansky merely mentions cysts of the pancreas; Virchow describes instances in which the tumor had attained the size of the fist; Recklinghausen, Klebs, and Birch-Hirschfeld speak of cysts as large as a child's head. Nor did the clinical diagnosticians mention anywhere the fact that these growths may reach forward so as to constitute tumors of the abdomen recognizable by palpation, and even by inspection,—except Friedreich, who states that the tumor may sometimes be felt through the abdominal walls. It is then scarcely a matter of surprise that the enormous cysts described in the recent literature of the subject have led to errors of diagnosis.

Twelve cases—six occurring in men, six in women—have been recorded: one each by Rokitansky, Thiersch, Bozeman, Kulenkampff, Gussenbauer, Dixon, Riedel, Senn, Billroth, Hahn, Ahlfeld, and Küster. In nine of these the diagnosis was erroneous. The cases of Gussenbauer, Senn, and Küster were correctly diagnosticated before operation, and terminated in complete recovery. The last of these observers* has, as a result of careful study of the collected material, reached some important generalizations which place this subject, hitherto involved in deep obscurity, in a clear light.

Cysts of the pancreas are, as a rule, developed in the body or tail of the organ, very rarely in its head. Hence their influence upon digestion varies widely, and may be very trifling. They are usually single. In one instance only (Dixon) were there two, of which one occupied the head and body of the pancreas, the other the tail. Although cysts of this organ have been regarded as belonging to the group of retention-cysts, it is worthy of remark that in none of these cases has either a calculus or an anatomical lesion capable of mechanically obstructing the outflow of the secretion been discovered. The experimental researches of Senn make it highly probable that after such obstruction, as after ligation, the secreted fluid is absorbed, and that accumulation can result only when certain changes in the parenchyma have taken place. The contents of these enormous cysts are usually admixed with old or recent blood.

Their etiology is not clear. Traumatism, excesses in eating and drinking, inflammation of neighboring organs, and enteric fever have been regarded as causes. Doubtless these agencies all act in the same way in inducing interstitial inflammation or hemorrhage in the substance of the organ, thus leading to local contractions and degeneration. The development of the cysts is sometimes very rapid, more frequently it is slow.

Colic-like pains in the region of the stomach, *neuralgia cœliaca*, are usually present, and often very violent. These pains have been in some of the cases regarded as cardialgia or as hepatic colic. The pain is not only paroxysmal, it was also in certain cases periodical.

Increased flow of saliva, the so-called *salivatio pancreatica*, is neither common nor important. Vomiting, however, may

* Deutsche Medicinische Wochenschrift, 1887, Nos. 10 and 11.

occur, and is probably due to mechanical disturbance of the stomach. Diarrhœa is not frequent; nor are fatty stools (steatorrhœa) the rule,—a fact to be explained by the common situation of the cyst: namely, at the body or tail of the pancreas. A very striking symptom is the rapid emaciation. Küster's case lost over thirty pounds in four months. This symptom is probably due not so much to incomplete assimilation as to some disturbance of the cœliac plexus and solar ganglia, to which must also be ascribed the polyuria occasionally noted.

Whatever the symptom-complex, a diagnosis becomes possible only when the cyst has attained such dimensions as enable it to be recognized as a fluctuating tumor by the methods of physical diagnosis. Even when the tumor can be distinctly felt and seen in the epigastrium, the danger of mistaking it in either sex for other form of growth is exceeding great: in man for echinococcus of the liver, spleen, or mesentery, for a distended gall-bladder, or for aneurism of the aorta or its branches; in woman for any one of these, or for cystic disease of the pelvic organs, especially the ovary. Errors of this kind are the most likely when the tumor becomes large enough to reach into and distend all regions of the abdominal cavity. The rarity of cysts of the pancreas as compared with cysts of the ovary, the fact that the growth was first observed in the upper part of the abdomen, the results of bimanual examination in the female as determining the relations of the pelvic organs with the cyst, are important. Percussion affords very positive results. The distention of the stomach, for diagnostic purposes, with carbon dioxide causes it to pass with an increasing area of tympany in front of a pancreatic cyst, and without widening resonance behind an ovarian cyst. Fluid obtained by means of exploratory puncture with a hypodermic syringe is of diagnostic value. The contents of pancreatic cysts—albuminous, usually containing blood and epithelial elements—bear no resemblance to the fluids found in other cysts except in certain forms of ovarian disease. The property of emulsifying fats is not in all cases retained. When present, it is of positive diagnostic significance.

The treatment consists in evacuating the contents of the cyst by means of laparotomy, and stitching the wall of the cyst to that of the abdomen. The resulting fistula has in the three successful cases gradually closed. Total extirpation of the cyst is, in view of the anatomical relations of the parts, an operation of wholly theoretical consideration.

THE TREATMENT OF WHOOPING-COUGH BY ANTIPYRINE.

THE recent report of Dr. Sonnenberger, of Worms, upon "The Pathogenesis and Therapy of Whooping-Cough"* acquires peculiar interest at the present time in view of the wide prevalence hereabout of this disease, much of which is of a degree of severity not common at this season of the year. Its treatment, which must be confessed to rank among the *opprobria* of medicine, is at present far from yielding satisfactory results, notwithstanding the efforts, often heroic, that have been made to conform it to the simplest requirements of the germ-theory of disease. In point of fact, certain of these efforts, such as the use of strong sprays of carbolic acid or other germicide substances, are wholly impracticable, and could not be attempted in private practice. The older modes of treatment, by narcotics, such as belladonna, opium, conium, chloral, etc., while of some value, are inadequate in the graver cases, and not wholly free from danger. Agents directed against the catarrhal symptoms

* Deutsche Medicinische Wochenschrift, No. 14, April 7, 1887.

are for the most part of little effect in any respect, and of none at all in controlling the nervous phenomena. Notwithstanding a list of remedies and plans of treatment of wearisome and discouraging length, there is a manifest disposition on the part of the profession towards pure expectancy in the mild cases and symptom-treating in the severe, that argues poorly for the results of accumulated experience.

Sonnenberg, after using antipyrine in seventy cases in two outbreaks, claims excellent results. Begun in the first stage, its action brought the attacks to a close, with mitigated symptoms,—the paroxysms, as a rule, not exceeding six or seven in twenty-four hours,—in from three to five weeks. When the treatment was not begun till a later period of the attack, the paroxysms were at once influenced for the better, the first sign of improvement being freer expectoration. This was speedily followed by general improvement, and increased ability to retain food. Collapse was in no instance induced. Complications occurred in five of the seventy cases: in two instances pneumonia, in three tuberculosis. Every attention was paid to general hygiene.

What the action of antipyrine may be cannot in the present state of knowledge be positively affirmed. Sonnenberger seems to incline to the view held by Binz and others,—that the effect of the members of the chinolin group within the organism is antiparasitic, as it is outside, and that we thus have an actual specific against whooping-cough in the true sense. To this must be added a very remarkable sedative influence in certain irritable states of the nervous system just beginning to be appreciated as among the properties of this extraordinary group of drugs. At all events, this application of antipyrine invites the fullest clinical investigation, and we shall welcome early and full accounts from those who are in the way of making such researches.

Antipyrine may be given to children in doses of from one-quarter of a grain to three or five grains, according to age; to adults in doses of ten or fifteen grains, three or four times a day. The preferable mode of administration is in the form of powder in sweetened water. It is not disagreeable to take, and in these doses has, as was shown by Petersen, no deleterious effects upon the digestion. It may be continued for several weeks without ill result.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

HYSTERICAL Hemianæsthesia and Toxic Hemianæsthesia was the title of a clinical lecture delivered at the Hospice de la Salpêtrière recently by Professor Charcot. He took advantage of the presence of two patients in the wards to discuss the following questions:

1. Is there a hemianæsthesia coming directly from lead-intoxication?

2. Is there an alcoholic hemianæsthesia which occurs as one of a series of nervous troubles belonging to chronic alcoholism?

He said that "some physicians answer both of these questions in the affirmative, but the study of a large number of cases leads me to think that it is not at all well established that such is the truth; not but what some patients do present themselves in whom saturnism and alcoholism are combined with a unilateral anæsthesia, but I cannot believe that they really form part of the pathology of these chronic forms of intoxication." Passing to the study of the cases, he gave the following history of them: "The first one is that of a man of 27, a house-painter by trade, who came in on the 15th of last June. His mother, he says, is subject to cramps in her legs very violent in character, and coming on every few days; her eyesight is also very bad. This may be tabes. One of his sisters had attacks of convulsive hysteria, in which she cries out, but does not bite her tongue. These symptoms, he tells us, went away after her marriage. The patient himself is a well-formed man; he is not a syphilitic nor an alcoholic subject; he has not had any serious illness, except typhoid fever ten years ago.

"He began working at his trade twelve years ago, and has continued at it ever since, without being troubled with lead-colic or any paralysis of the extensor muscles. Some eighteen months ago, however, he suddenly felt his legs give way beneath him, and something seemed to go upward from his abdomen to his stomach, at the same moment his belly

contracted, and he had a sensation of constriction in the neck. Calling out at this moment, he would have fallen if he had not been held up by one of his fellow-workmen; he remained for half an hour in an insensible state, and on coming to himself his left leg was without feeling in it. He presents, as you see, a high degree of saturnine discoloration of the skin, and the blue line on the gums is well marked; he is also very anæmic.

"For a month these attacks came on daily, the aura starting from the left leg. A treatment with bromides and iodides and sulphur-baths diminished considerably the attacks, but they still recur each fortnight. The left side is weaker than the right, and the left hand trembles most; there is also a left hemianæsthesia. With the right eye he can only distinguish the red colors, and the hearing and taste on the right side are almost abolished. The first idea that strikes you all is that the symptoms are due to attacks of lead-poisoning, but Grissolle showed that the subjects of saturnine epilepsy do not present the same symptoms that this man does. They never make an arc of a circle with their bodies (opisthotonos), nor do they retain a knowledge of the initial symptoms as he does. His face, also, does not take part in the convulsions. Again, when the lead-epileptic gives up his trade the attacks cease, but here after eighteen months they continue in our patient. What is the nature of his attacks, then? Do they depend upon some cerebral lesion? Those among you who have followed our studies regularly will see at once that this is a case of *hysteria only*, as he presents all the symptoms that characterize the hysterical aura: the sensation of constriction in the neck, the noise in the ears, and also that special attitude during the attacks that we call 'arc de cercle,' in which the body rests on the head and heels only. We can also apply an Esmarch's bandage to his arm and produce an artificial contraction of the muscles. It must be admitted now as proved that hysteria exists in man, after all the cases that have been presented; and indeed we can assert without fear of contradiction that it is not at all exceptional in man. I think that possibly saturnism may act a certain *rôle* in producing these nervous troubles in a patient predisposed to them. It certainly brings on attacks of gout as well as other diseases.

"The answer, then, I give to the first question is that a certain number of supposed saturnine hemianæsthesia cases come from hysteria; and that I am inclined to doubt the existence of pure saturnine hemianæsthesia, as I do also that supposed to be caused by alcoholism. The next case is a typical one to decide the last question.

"C., 33 years of age, has been under treatment here for a year past. His father is a violent man, and his mother has attacks in which 'she breaks everything.' A paternal uncle has ataxia, and the patient himself had convulsions as an infant. At seventeen years of age he took to drink, rising at last to as much as five quarts of brandy in a week; this excess was followed by trembling of the hands, nightmare, etc. Two years ago he had his first convulsive attack, in which he fell from his bed, and which was followed by a right hemiplegia. Soon afterwards he had another convulsive attack, when his hemiplegia went away, but was followed by 'mutism.' Since then he has had frequent attacks, and the symptoms commence in an aura that starts from above the right hip. This is followed by constriction of the neck (globus hystericus), tonic convulsions, opisthotonos, and hallucinations. Muscular contractions can be provoked, and right hemianalgesia exists. This is also simply a case of pure hysteria, this time in an alcoholic subject. The nervous predisposition is present in a high degree: violent father, hysterical mother, he himself subject to convulsions as a child, etc. The alcoholism simply brought out the hysteria. The lesson is that this sort of attacks must not be attributed to a *toxic cause only*, and the answer to the two questions given at first is that the affirmative side is not at all proved in either of them."

Action of Rectal Injections of Carbonic Acid on the Respiration.—Professor (Agrégé) Charles Richét (who will most likely take the place of the late Professor Béclard as Professor of Physiology) has been making a series of experiments on this subject. When carbonic acid gas is injected into the rectum and large intestine, whether the person be ill or not, he finds that the pulmonary exhalation will increase immediately after the injection, and it will rise from eight litres per hour (and per kilogramme) to ten litres. The proportion of carbonic acid gas exhaled by the lungs rises also according to the quantity of gas injected into the rectum. It results from these facts that: First, the presence of an excess of carbonic acid gas in the blood determines an excitation of the medulla oblongata, and that this reflex causes an acceleration of the respiratory movements; from which it seems to result that the carbonic acid gas is the true regulator of the act of respiration. Secondly, that this acceleration of respiratory movements brings about an elimination of carbonic acid gas in excess without changing the proportion of oxygen contained in the blood; in a word, without changing or making the slightest modification in the interstitial changes going on in the organism. Professor Brown-Séquard called attention to the fact, however, that there were two series of actions produced, according to the dose used: a small one would excite to action, and a very large one would produce inhibition. M. Richét said this was true, and stated that the elimination of the carbonic acid gas was not primitive, but consecutive to the acceleration of the pulmonary ventilation.

M. Bergeon, of Lyons, is at present in Paris, making some experiments with M. Richét, and he lately presented a phthisical patient to the Anatomical Society who after the treatment had passed a good winter in the cold climate of Geneva, Switzerland. It is, however, stated that when he ceases the injections the dry, crackling râles can be heard at the summit of the lungs. Some favorable cases are seen here of this treatment, and a good report of it has been heard from England, but it is not very much used in the Paris hospitals, and none of the principal professors are using it. The impression got about here, owing to some sensational cable despatches published in local newspapers in regard to this treatment being used in Philadelphia, *that America claimed the invention!* and one of the medical papers takes us severely to task about it. We, however, think that we were one of the first to describe the system as that of M. Bergeon's in our letters, and he got every credit for the invention in a letter published in these columns nearly a year ago.

Development of the Fœtus and Induced Labor in Women having Deformed Pelves.—Dr. Felice La Torre, a distinguished Italian obstetrician, has been making a study of the above question in Paris, and has just published the results in a large and very interesting work, in which he gives the statistics of all the accouchement services here, amounting to thousands of cases. He finds, in regard to the first part of the question, that a narrowed pelvis has no bad influence over the progress and proper development of the product of conception in women who have a deformed brim; the child will be as well formed as in any other normal pelvis. He next examines the effects of intervention in provoked labor before term, and gives the following table:

Before antisepsis was used:

Infants (mortality per 100) .	42.85.
Mothers (mortality per 100) .	26.53.

Since antisepsis has been introduced:

Infants (mortality per 100) .	34.61.
Mothers (mortality per 100) .	00.

In the second part of the work this author studies artificial premature confinement before the introduction of antisepsis and the "couveuse," and since, and he finds both the antiseptic precautions and Tarnier's hatching-cradles* have given splendid results.

He then compares the effects of the Cæsarean operation and early artificial labor, and gives the following results:

Cæsarean Operation.

Mothers cured .	66 6 per cent.
Mothers died .	33.3 per cent.
Infants born alive .	62.4 per cent.
Infants born dead .	37.6 per cent.

Early-provoked Labor.

Mothers cured .	100 per cent.
Mothers died .	00. per cent.
Infants born alive .	88.7 per cent.
Infants died .	11.3 per cent.

He then concludes that the Cæsarean operation, even modified by Saenger, does not give as good results as early-provoked labor, and he thinks that craniotomy is to be preferred to the first when the infant is at term. The following, in brief, are some of La Torre's conclusions. Spontaneous delivery before term is more frequent in well-formed subjects than in those who are afflicted with pelvic deformity. The product of conception acquires the same development as to weight and volume in a deformed pelvis as it does in a well-formed one. There being no normal proportion between the child and the pelvis, it is evident that a fœtus at term cannot pass, without danger, through a pelvis measuring less than nine centimetres: in such cases the infants usually die and the mothers run great risks. To prevent the serious danger to women who have a narrowed pelvis (between five and a half and nine centimetres) we must bring about premature labor before term. With antiseptic precautions all the mothers are saved, and eighty-eight per cent. of the children.

Not only is premature labor advocated by French accoucheurs at present, but even abortion is openly advised when the continuation of the pregnancy will likely be fatal to the mother. Professor Pajot says, "Those who wait until the woman with a narrow pelvis is at full term, in order then to perform a Cæsarean operation or some other one, are like the savages who cut down a beautiful tree to get at the fruit." A writer asks, "Who would dare plunge a craniotome into the brain of a living child?" But what right have we—or, rather, the laparotomist—to take up a knife to risk the life of a woman in good health, who may be the joy of her family, or even its support in old age, simply to most likely exchange her life for the possible life of an infant of whom we know nothing in regard to its form or possible chance of living?

The Bacillus of Typhoid Fever.—Dr. Chantemesse, the head of Professor Cornil's laboratory, has been making some interesting experiments on this bacillus and the etiology of typhoid fever, with M. Vidal. He indicates a method for finding this micro-organism. It consists in simply adding to each of the gelatin tubes used (containing ten centigrammes each) four or five drops of a ten-per-cent. solu-

* See Clinical Lecture, page 653, *ante*.

tion of carbolic acid; this is afterwards used for the isolating-plates. The first tube is inoculated by passing a platinum wire through it that has first been steeped in the typhoid dejections; the addition of this feeble quantity of carbolic acid prevents the formation of other micro-organisms that otherwise would rapidly liquefy the gelatin. Many of these are much the same form as Eberth's bacillus, some of which can usually be found in the human mouth, but they can be distinguished by the fact that the typhoid bacillus is mobile, while the others are not. It seems that the real typhoid microbe lives for a long time in fecal matter, and no doubt is the active agent in causing the fever to be spread abroad. Passing on to the study of antiseptic agents on these matters, the authors find that only sulphuric acid in five-per-cent. solution, and carbolic acid in five- and ten-per-cent. solutions, have an action, and they *only when contact has been prolonged for some time*. Among the internal remedies employed, such as thalline, antipyrine, kairine, quinine, etc., they find that the one that acts best is sulphate of quinine, which, in a solution of one to eight hundred, usually stops the development of the typhoid bacillus.

In a further series of experiments M. Chantemesse shows that the opinion of Arnould, that water even rich in organic matters was antipathic to the inferior pathological micro-organisms, is not true. Taking a large bottle containing a little sand and full of water, which had been sterilized, some of the typhoid bacilli were put into it, and during the first few weeks the top of the water was found to give a culture of the bacillus. But after standing two months the surface-water did not contain any more of the microbes; on then decanting the water, and adding a little fresh water from the spigot, the earth and sand left in the bottle were enough to reproduce the bacilli in great quantities. This experiment shows how it is, after drawing off the water from a reservoir to clean it and then refilling it, that typhoid will break out in people using the fresh supply if it contain the bacillus. Numbers of such instances are known. When the water has settled, its superior layers seem to be inoffensive; but if the bottom is stirred up, the germs rise up and produce the disease. It is rather lucky that water must be rather warm to keep up the virulence of these bacilli (at least 19° C.); as a rule, our drinking-water does not reach that temperature, except in small reservoirs and in extremely hot weather; and this is given as a reason why typhoid epidemics are more frequent in summer and in hot climates. It might be presented as an excuse for Americans drinking ice-water that it is sterilized, if the ice was only pure. In any case, these studies are to be recommended to doctors not so much for the typhoid patients they may have to treat, but that they can fill the *rôle* of a true physician, which is not so much to cure, which is difficult, but to prevent, which is often easy.

Arthritic Diabetes.—Dr. Blanquinque says that this form of disease is the most common, as it occurs in ninety per cent. of diabetics. The patients are mostly fat people from forty to sixty years old, often gouty, and good livers, while taking but little exercise. The proportion of sugar in the urine will vary, of course, but the following mode of treatment has made it fall in two weeks and often caused it to disappear in a month. In the first place, give the following prescription:

℞ Extract. valerianæ, 0.20 centigramme;
Extract. opii, 0.015 milligramme;
Sodii arseniatis, 0.002 milligramme. M.
Fiat pil. no. i.

Give from four to six such pills with the principal meals of the day. The effect will be to calm the cough and to diminish the desire to urinate, as well as to act upon the disease. When the thirst is intense, the dose of opium in the pill should be increased at night. In the second place, the alimentary régime has considerable importance, no matter what has been said against it. Bouchardat's method is the best known, so it will not be necessary to enlarge upon it, except to say that it may be slightly modified so as to permit the use of bread if only the crust part is used, and he prefers that it should be toasted. Potatoes are also allowed now, if they are fried. All pastry, fruits, etc., are forbidden of course. As to the drink: wine is allowed of the red Bordeaux kinds, if it is mixed with Vichy water; coffee or tea is allowed after dinner with cognac, and if sweetening be required a little glycerin is permitted. Vichy water is to be drunk morning and evening, and a season passed at Vichy is recommended to those who can go. Bouchardat used to insist on his clients cutting their own wood, and practising fencing and other gymnastic exercises; and Chomel said "they should digest with their legs." Certainly we burn our sugar and fat by muscular contraction, so that exercise and frictions of all kinds, such as massage, are indicated.

Dr. Martineau's recommendation of lithia and arsenic has caused a good deal of comment and trial; but as it is not always convenient to make the water he uses, the following pill-form which M. Vigier gives may be used instead in the arthritic forms of this disease:

℞ Lithii carbonat., 0.10 centigramme;
Sodii arseniat., 0.003 milligramme;
Extract. gentianæ, 0.05 centigramme.
M. Fiat pilulæ.
S.—Give one of these pills evening and morning for several months.

Considerable comment has been made here on a phrase in a letter that Billroth, of Vienna, has written in one of the newspapers there.

Speaking of Pasteur's work, he said, "Well, we don't blame the French for applauding so much Pasteur's discovery, for not only have they not made any great progress in science these last twenty years, but they are following with difficulty and halting steps the colossal progress of German and English science." To put it mildly, this way of talking by the great Vienna surgeon has caused a great deal of irritation in Paris, and Herr Billroth is curtly reminded that he and others are much indebted for their education to such men as the illustrious dead French surgeons were, not to mention the ones now living. They also ask him what sort of men in neuropathology Germany can present in the last twenty years to compare with Duchenne (of Boulogne), Vulpian, Charcot, etc., or in physiology with Magendie, Flourens, Longet, Bernard, P. Bert, Brown-Séquard, etc. But, as that great lady, Mrs. Partington, once said, "comparisons are odorous," and, if the newspaper account can be relied upon, we can only wonder that a man of Billroth's stamp could be guilty of making them.

THOMAS LINN, M.D.

PARIS, June 3, 1887.

PROCEEDINGS OF SOCIETIES.

AMERICAN MEDICAL ASSOCIATION.

(Continued from page 640.)

Second Day, General Session.

ON motion, the regular order was suspended to receive reports of committees.

The Committee of Arrangements reported a number of invitations to the members, which were accepted.

THE REPORT OF THE TRUSTEES OF THE JOURNAL

was read by Dr. J. M. Toner. Dr. N. S. Davis, by special request of the Trustees, had been induced to continue in charge of editorial and publishing departments. The establishment of a printing-office by the Journal had worked satisfactorily. The report of the Editor shows an increase of circulation and an increased income. Total cost of the Journal of the Association, for the year ending March 31, 1887, was $15,920.96; the total receipts from all sources were $21,723.22,—from the Journal alone, $7580 63; value of property on hand, $1058.56. The Editor said, "When the Journal was commenced in 1883, the New York State Medical Society had recently repudiated the National Code of Ethics, thereby forfeiting her right to membership in the American Medical Association, and the seditious doctrine of a New Code or No Code was being actively disseminated in other States, and the Association was being misrepresented and denounced by some of the most influential medical journals in the country. The result of this Code controversy was the final withdrawal from membership of a large number of those who espoused the New York Code during the years 1883–84. Hardly had this Code revolt spent its force, when a still more bitter opposition was encountered by the Association in attempting to effect a preliminary organization for the Ninth International Medical Congress,—an opposition which did not yield until after the annual meeting of the Association in May last, and many of those engaged in it had withdrawn either by direct request or by refusal to pay their dues. The full force of this last revolt was fairly spent during the first half of the Journal year, and during the last six months there have been more applications for membership and renewals of subscriptions than at any previous time since the Journal was established. The fact that in less than four years of such unprecedented professional controversy the Journal should have been sustained, while steadily, firmly, though temperately defending the Association, its National Code of Ethics, and persistently advocating the only practicable representative organization of the whole profession by local, State, and national Associations, and more than double its circulation, and at the same time increase the income of the Association more than threefold, certainly demonstrates the wisdom of its establishment, if it does not prove the ability, efficiency, and prudence of those having the responsibility of its management." In conclusion, the Editor recommended the addition of four pages of reading-matter to each number of the Journal at the commencement of the next volume. The Trustees had been authorized to expend $6000 for editorial work, but had limited it to $2758.95 during the past year in order to keep out of debt.

On motion of Dr. William Brodie, the report was adopted, with applause.

The special committee appointed at the last meeting to consider

PROPOSED CHANGES IN THE PLAN OF ORGANIZATION AND BY-LAWS OF THE ASSOCIATION

reported through the chairman, Dr. N. S. Davis. The plan of organization of the British Medical Association was first critically examined, and found not suited to the profession of the United States, which is spread over such a large area of country. The present plan of State and County Medical Societies sending delegates to the national Association was considered better suited to the organization of the whole profession. The following changes were proposed:

"*Members by Application* shall consist of such members of State, County, and District Medical Societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompany said

application with a certificate of good standing signed by the President and Secretary of the Society of which they are members, and the amount of the annual membership fee (five dollars). They shall have their name on the roll, and have all the rights and privileges accorded to Permanent Members, and shall retain their membership on the same terms."

This enables any one or even all of the members of recognized State and local Societies, under adequate safeguards, to become *de facto* permanent members of the American Medical Association without the expense of attending an annual meeting.

In place of the present Nominating Committee it is recommended to create a General Committee or Council, composed of two members from each State or other organization entitled to representation, each to serve for two years. It shall meet annually at the place and on the day preceding each annual meeting of the Association, and as often in that week as may be necessary: to nominate on the third day of each annual meeting all the general officers of the Association (none of whom shall be members of its own body), the members of the Committee on Arrangements, the Committee on Necrology, seven members of the Judicial Council, and three members of the Board of Trustees for Publication, for election by the Association; to recommend the place and time for holding the next annual meeting; and to consider and report on all subjects that may be referred to it by vote of the Association. The paragraph relating to the Committee on Publication should be rescinded, since its duties are performed by the Board of Trustees of the Journal, whose duties are to be specifically detailed and enlarged by another amendment.

The by-law requiring chairmen of Sections to read addresses before the general session to be changed to make it read "before the Section over which they preside." It was also recommended that the Standing Committee be empowered to invite three members of the Association, eminent in some of its departments, to deliver addresses in the general sessions of the next ensuing annual meeting, —one on a medical subject, another on a surgical, and a third upon state medicine. Both of these are in accordance with the practice of the British Medical Association.

On motion of Dr. Early, of Pennsylvania, the report was adopted and the committee discharged.

A communication was received from the American Pharmaceutical Association, asking the aid and co-operation of the American Medical Association in promoting the prescribing by physicians of officinal medicines only, or such preparations as have published formulas, in preference to others.

On motion, the communication was received and adopted as a resolution.

Dr. J. L. Lynch, of Baltimore, then read the

ADDRESS IN MEDICINE.

The first subject discussed was that of antipyretics. He attributed to fever a fatal influence in most of the diseases in which it is present, and considered that the means for safely reducing and keeping down a tendency to morbidly high temperature unquestionably constitute the most powerful weapon we possess in combating a large majority of the diseases to which mankind is heir. Medicines which increase heat-loss, apyretics, are less valuable than those which prevent the abnormal heat-development. Quinine was the only agent of this kind that was in our possession until lately, when antipyrine was introduced by Knorr, of Erlangen. In gramme doses, repeated every hour until three or four doses have been taken, and afterwards every three or four hours, it had proved very efficient in his hands for reducing hyperpyrexia. Antifebrine (acetanilide) may be substituted, as it is cheaper, but it is not soluble in water, while antipyrine is. The new cardiac stimulants strophanthin and spartein sulphate were pronounced less useful than digitalis. The remaining portion of the address was devoted to a consideration of phthisis. He denied that the bacillus is the sole or even a frequent etiological factor in initiating tuberculosis, but did not deny that it has some pathological significance. Hygienic measures are of primary importance in preventing or curing phthisis. Bergeon's method, which he pronounced a mistaken one, is based upon an incorrect theory of the disease.

Third Day, General Session.

The President announced that the adoption of the report of the special committee on Changes of Organization also carried with it the adoption of the recommendations except those which were amendments to the Constitution, which must lie over until the next meeting under the rule.

A congratulatory telegram was received from the Ontario Medical Association in session, and Dr. William Brodie directed to send one in response.

OFFICERS FOR THE ENSUING YEAR.

President.—Dr. A. Y. P. Garnett, District of Columbia.

Vice-Presidents.—Drs. Duncan Eve, Tennessee; Darwin Colvin, New York; Charles J. O'Hagan, North Carolina; A. Stedman, Colorado.

Librarian.—Dr. C. H. A. Kleinschmidt, District of Columbia.

Treasurer.—Dr. R. J. Dunglison, Pennsylvania.

Assistant-Secretary.—Dr. Joseph Ransohoff, Ohio.

The place for next meeting is Cincinnati, on the second Tuesday in May, 1888. Chairman of Committee of Arrangements, with

power to appoint members of Committee, W. W. Dawson, of Cincinnati.

Trustees of the Journal.—Drs. L. Connor, Michigan; E. O. Shakespeare, Pennsylvania; W. T. Briggs, Tennessee.

Judicial Council.—Drs. J. H. Murphy, Minnesota; Joseph M. Toner, District of Columbia; J. K. Bartlett, Wisconsin; A. B. Sloan, Missouri; X. C. Scott, Ohio; B. McClure, Iowa; D. W. Stormont, Kansas. To fill a vacancy, James F. Hibberd, Indiana.

Committee on State Medicine.—Alabama, Jerome Cochrane; Arkansas, R. G. Jennings; California, J. W. Robertson; Colorado, P. Brumund; Connecticut, W. H. Whittimore; District of Columbia, G. W. Cook; Florida, N. D. Phillips; Georgia, T. S. Hopkins; Illinois, E. P. Cook; Indiana, J. M. Beard; Iowa, G. F. Jenkins; Kansas, W. L. Schenck; Kentucky, J. A. Larrabee; Louisiana, T. G. Richardson; Maine, Thomas Foster; Maryland, G. H. Rohé; Massachusetts, Grace Wolcott; Michigan, A. W. Alvord; Minnesota, C. N. Hewitt; Mississippi, T. R. Trotter; Missouri, Lester Hall; Nebraska, William Knapp; North Carolina, Eugene Grissom; New Hampshire, W. P. Porter; New Jersey, B. A. Watson; New York, A. N. Bell; Ohio, F. C. Bain; Pennsylvania, J. C. Dunn; Rhode Island, W. J. Burge; South Carolina, T. Legate; Tennessee, R. Cheatham; Texas, J. E. Sears; Vermont, S. H. Griswold; Virginia, H. M. Nash; West Virginia, J. E. Reeve; Wisconsin, J. K. Bartlett; United States Navy, Delavan Bloodgood; United States Marine Hospital, C. P. Goldsborough; Dakota Territory, E. M. Dow; New Mexico, R. Bailey.

Committee on Necrology.—J. M. Toner, Washington, D.C., Chairman; T. E. Murrell, Arkansas; B. B. Wyman, Alabama; J. G. Terry, California; M. H. Sears, Colorado; R. A. Lancaster, Florida; E. Ingalls, Illinois; J. F. Hibbard, Indiana; J. M. Emmert, Iowa; L. M. Minney, Kansas; J. G. Brooks, Kentucky; R. Matas, Louisiana; John Morris, Maryland: E. C. Bell, Massachusetts; G. E. Ramsey, Michigan; A. W. Strickfield, Minnesota; H. B. Merrill, Missouri; A. S. von Mansfelde, Nebraska; J. H. Tucker, North Carolina; J. F. Ill, New Jersey; J. W. Parsons, New Hampshire; L. D. Trowbridge, New York; H. J. Herrick, Ohio; F. Woodbury, Pennsylvania; W. J. Burge, Rhode Island; F. L. Parker, South Carolina; J. M. Savage, Tennessee; R. W. Park, Texas; M. R. Crane, Vermont; L. Ashton, Virginia; J. T. Reeve, Wisconsin; J. N. Weir, Dakota; R. Bailey, New Mexico.

On motion of Dr. P. H. Millard, the report was accepted.

The Permanent Secretary announced the officers of the Sections, as follows:

Practice of Medicine, Materia Medica, and Physiology.—Chairman, A. B. Palmer, Michigan; Secretary, N. S. Davis, Jr., Illinois.

Section on Obstetrics and Diseases of Women.—Chairman, Eli Van de Warker, New York; Secretary, E. W. Cushing, Massachusetts.

Section on Surgery and Anatomy.—Chairman, Donald McLean, Michigan; Secretary, B. A. Watson, New Jersey.

Section on Ophthalmology and Otology.—Chairman, F. E. Hotz, Illinois; Secretary, H. H. Jackson, Pennsylvania.

Diseases of Children.—Chairman, F. E. Waxham, Illinois; Secretary, W. B. Lawrence, Arkansas.

Oral and Dental Surgery.—Chairman, J. Taft, Ohio; Secretary, E. S. Talbot, Illinois.

State Medicine.—Chairman, H. B. Baker, Michigan; Secretary, S. T. Armstrong, Tennessee.

Medical Jurisprudence.—Chairman, E. M. Reid, Maryland; Secretary, C. B. Bell, Massachusetts.

Section on Dermatology and Syphilography.—Chairman, L. D. Bulkley, New York; Secretary, T. F. Dunlap, Kentucky.

Dr. N. S. Davis, Sr., having mentioned the necessity of appointing members to prepare the three addresses in accordance with the amendments which had been adopted, after some discussion Dr. D. J. Roberts, of Tennessee, moved that action on this point be deferred until 1888. Dr. Davis moved as an amendment that the action as to the By-Laws be permitted to remain, inasmuch as there were very few negative votes, but that the others, which were amendments to the Constitution, should lie over for ratification at the next meeting. This was accepted by the mover, and was unanimously adopted.

Dr. G. H. Rohé, Secretary of the Rush Monument Committee, read the report of the Committee, showing that the total contribution to the fund is three hundred and eighty-nine dollars. The Treasurer's account was audited and found correct.

CREMATION.

Dr. John Morris, of Baltimore, read for Dr. J. M. Keller, of Arkansas, Chairman, the report of the special committee appointed at the last meeting to report on this subject. In default of cremation, and to prepare the public mind for it, cremacausis, or rapid disintegration of the body by caustic agents, was advised. The following resolution was appended to the report:

"*Resolved*, That it is the judgment of the American Medical Association that the burial of all persons dying with zymotic diseases should be placed by law under the control of the health authorities, and that in all such cases of disease chemical agents should be used by such authorities to bring about a rapid disintegration of the dead body."

At the request of the Committee, the report was referred to the Section on State Medicine for action.

INOCULATION FOR YELLOW FEVER.

A report from the special committee on Yellow-Fever Inoculation, through Dr. J. McF. Gaston, of Georgia, was read, recommending the passage of the following resolutions:

"*Whereas*, An appropriation has been made by Congress for investigating yellow-fever inoculation, and an eminent bacteriologist has been appointed to examine the data presented in Mexico and Brazil;

"*Resolved*, That it is desirable that two other members of the medical profession should be associated in this work, one having practical and clinical acquaintance with yellow fever, and the other being able to communicate with the population of the respective localities.

"*Resolved*, That a committee of three be appointed by the President of this Association to communicate this action to President Cleveland, setting forth the grounds for such recommendation."

Dr. G. H. Rohé unsuccessfully moved to table the resolution; it was adopted. The regular order of business was resumed.

The Address in Obstetrics was read by Dr. F. M. Johnson, of Missouri, Chairman of this Section.

Dr. George H. Rohé, Chairman, read the

ADDRESS IN STATE MEDICINE.

After referring to the bacterial character of several diseases, he showed the importance of sanitary measures. In typhoid the physician fails in his duty who does not adopt every means for the disinfection of the intestinal discharges. Health authorities should have under their control establishments where disinfection can be carried out on a large scale and at the public expense. Such institutions are in successful operation in a number of Continental European cities.

"Quarantine, a word which for more than five centuries has been synonymous with barbarism, is becoming under modern methods a safeguard to the public against infection and an advantage instead of obstruction to commerce. The results achieved at the model quarantine station at New Orleans encourage the hope, and almost warrant the prediction, that the days of the quarantines of detention, whether by sea or land, are past, and that quarantine in future will mean simply *thorough disinfection* of fomites, and of course effective isolation of persons already infected.

"Cremation of garbage seems to be the best method yet devised for the inoffensive destruction or final disposal of solid city wastes.

"The irrigation system of sewage-disposal has steadily won favor. In Berlin, Breslau, and Dantzic in Germany, Birmingham in England, and Pullman and other places in this country, it has been in successful operation. Chemical precipitation and purification of sewage has also been adopted, with satisfactory results, in various German cities. A board of distinguished engineers recently recommended the same system for the city of Providence, Rhode Island.

"Professor Vaughan's discovery of a very poisonous ptomaine in cheese, ice-cream, and milk undergoing certain chemical changes has been confirmed by a number of investigators in various parts of the country. Vaughan's suggestion that tyrotoxicon may be found to be the poison which produces cholera infantum opens up a new field for investigation in which every physician must of necessity be interested.

"Analyses of food and drugs made during the year in Massachusetts and New York show the wide extent to which adulteration is practised and how the people are defrauded. Among the most startling instances are olive oil, of which sixty-eight samples out of ninety-one were spurious. Vinegar was adulterated in seventy-nine samples out of one hundred and sixteen, mustard one hundred and twenty-four times in two hundred and eleven, white pepper sixty-three times in one hundred and twenty-eight, black pepper forty-one times in seventy-one, mace twenty-nine times in forty-five. Of nine samples of horseradish examined only one was found genuine. A precipitate of uncrystallizable sugar and coloring-matter and chloride of tin (poisonous) is sold to candy-makers for making confectionery. Citrate of iron from respectable manufacturers contained three and a half per cent. of quinine, instead of the twelve per cent. demanded by the pharmacopœia. Authority and means should be given to the health-authorities to protect the public from these frauds, many of which are a source of danger to life and health.

"Statistics collected by the speaker show that five-sixths of the inhabitants of cities in this country have no facilities for bathing, except such as are afforded by a pail and sponge, or an easily accessible river, lake, or other body of water. The establishment of public baths is urgently recommended, both as a sanitary as well as a normal measure. Tub or pool baths are objectionable both on account of expense and lack of privacy in the latter. The spray-baths in use in the German and French army barracks are recommended. These are not expensive, either in first cost or administration, and allow each bather absolute privacy and the opportunity for a thorough cleansing in clean water. Public baths should be open the year round, and not only during the summer.

"A number of instances are grouped together showing how the enforcement of appropriate sanitary measures has saved life. In Michigan the saving of life from one disease (scarlet fever) has amounted during the last eleven years to three thousand seven hundred and eighteen, or three hundred and thirty-eight per year. In 1886 appropriate sanitary measures saved the lives of two hundred and

ninety-eight persons, who would have died of diphtheria if such measures had not been enforced. In England and Wales the average annual saving of life due to sanitary measures has amounted, in the five years ending 1885, to sixty-two thousand. In Baltimore a marked reduction of deaths from infectious diseases has followed the enforcement of certain sanitary precautions. In Memphis the death-rate has been reduced in six years from thirty-five per thousand to 23.80 per thousand. In Chicago the reduction of mortality in the last five years has been from 25.69 per thousand to 19.46 per thousand, a net saving of seventeen thousand two hundred and fourteen lives in that city during that period.

"While all advances in sanitary administration have doubtless contributed to produce these good results, the main influence is to be attributed to three factors. These are *compulsory notification of infectious diseases, prompt and effective isolation of the sick and infected, and thorough disinfection of all infected articles and sources of infection.* These must be the watchwords of the practical sanitarian of the future."

Dr. R. J. Dunglison, Treasurer of the Association, presented his report for the past year. Balance on hand, $1403.77. The accounts were audited and found correct.

On motion of Dr. N. S. Davis, one thousand —amended from five hundred—dollars was ordered to be appropriated for the International Medical Congress.

The report of the Librarian, Dr. C. H. Kleinschmidt, of Washington, D.C., was read and approved. Subscription to the *Index Medicus* was ordered to be renewed.

Fourth Day.

The Nominating Committee reported the following names of physicians to deliver addresses at the next meeting: R. Beverly Cole, M.D., of San Francisco, California, on General Medicine; E. M. Moore, M.D., of Rochester, New York, on Surgery; James L. Cabell, M.D., of Virginia, on Public Medicine.

The Association adopted the report of the Committee, and Drs. Toner, Griscom, and Darwin Colvin were appointed a committee to notify those selected to deliver addresses, with power to fill vacancies.

The following was offered by Surgeon-General Hamilton, of the United States Marine Hospital Service:

"*Whereas*, The President of the United States has appointed George M. Sternberg, Surgeon United States Army, to proceed to Mexico and Brazil for the purpose of investigating the method there practised for the prevention of yellow fever by inoculation;

"*Whereas*, This report will be accompanied by photo-micrographic illustrations of the appearance of the principal organs of the body affected by yellow fever: therefore, be it

"*Resolved*, That the Senate and House of Representatives be requested to cause such number of copies of Dr. Sternberg's report to be printed as may be needed by the profession of medicine of the United States; and be it further

"*Resolved*, That the resolution on this subject passed yesterday be rescinded."

Dr. J. McF. Gaston objected that it was not in order. After some discussion, the previous question was demanded by the proper number. It was decided in the affirmative by a large vote, and the resolution of Dr. Hamilton was then adopted.

The Address in Dental and Oral Surgery was read by Dr. J. S. Marshall, of Illinois, Chairman of the Section. He advocated preservative treatment of teeth, and suggested that instruction should regularly be given on the subject in medical colleges.

The Address in Medical Jurisprudence was read by Dr. I. N. Quimby, Chairman of the Section. After he had discussed the subject historically, he took up for especial condemnation the crimes of fœticide and intoxication.

On motion of Dr. A. N. Bell, it was agreed that the committees should be appointed as requested in this Address.

The President appointed them as follows:

Criminality of Fœticide, and Measures for its Prevention.—I. N. Quimby, New Jersey; W. B. Atkinson, Pennsylvania; W. H. Byford, Illinois.

Duties Commonly Exercised by Coroners.—H. O. Marcy, Massachusetts; J. H. H. Burge, New York; W. W. Dawson, Ohio.

Dr. J. M. Toner reported that the necrological notices had been published as before.

The report of the Auditors was presented and accepted:

"The undersigned, Auditing Committee of the accounts of the Treasurer of the American Medical Association, and also of the Treasurer of the Board of Trustees, report that they have carefully examined the accounts of said officers, and find them correctly cast and properly vouched, and that the balances are as reported by said officers to the Association. In behalf of the Auditing Committee, ALONZO GARCELON,

"*Chairman.*"

Dr. Davis, of the Committee on Meteorological Investigations, etc., reported progress. On motion of Dr. Brodie, the report was accepted and the Committee continued.

Dr. Davis offered the following:

"*Resolved*, That the regular graduates of such dental and oral schools and colleges as require of their students a standard of preliminary or general education and a term of professional study equal to the best class of the medical colleges of this country, and embrace in their curriculum all the fundamental branches of medicine, differing chiefly by substituting practical and clinical instruction

in dental and oral medicine and surgery in place of practical and clinical instruction in general medicine and surgery, be recognized as members of the regular profession of medicine, and eligible to membership in this Association on the same conditions and subject to the same regulations as other members."

This was adopted by a large majority.

Dr. N. S. Davis read the following:

"*Resolved*, That the Committee of Arrangements are hereby directed at each annual meeting of the Association to so arrange the programmes regarding entertainments and receptions that the evening of the third day be reserved for a regular annual dinner under the following general regulations. The chief registration-officer shall provide for each registration-table a paper headed 'Annual Dinner of the American Medical Association,' with two columns for names, one headed tickets without wines or liquors, at a specified sum; the other tickets with wines, etc., at a specified sum; that each member, when registering, can have the opportunity to take a ticket for the dinner if he desires it, and can be entirely free to enjoy the dinner not only without using wines, but also without being required to assist in paying for that drunk by others; while those who desire the addition of wines will enjoy the same liberty. It shall be the duty of the Committee of Arrangements to select a proper place for the dinner, to ascertain the cost per plate on the plan already indicated, that the price paid for the tickets will pay the entire cost of the dinner, leaving no part to be paid either by the local profession or by the Treasurer of the Association."

This was also adopted by a large majority.

A motion to give an honorarium to the Permanent Secretary was lost, as all the income would be needed for the Journal.

On motion of Dr. E. A. Wood, of Pennsylvania, the President was requested to appoint a committee of three to prepare a report on Dietetics to be read at the next meeting. This was carried, and the President appointed Drs. E. A. Wood, J. S. Whittaker, and Frank Woodbury.

The Secretary announced the receipt of a telegram from the President-elect, A. Y. P. Garnett, M.D., of Washington, D.C., acknowledging the honor which had been conferred upon him, with regret at being unable to attend in person.

The usual vote of thanks was prepared and read by Dr. William Brodie, and unanimously adopted.

The retiring President, Dr. Gregory, in a brief address thanked the members for their assistance in conducting this very successful meeting, and declared that in discharging his duties as President he had achieved his highest ambition in life.

The session was then declared adjourned.

An excursion to Pullman was provided for a number of the members in the afternoon.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

MEETING OF MAY 26, 27, and 28, 1887.

(Continued from page 642.)

Second Day.

FURTHER RESEARCHES UPON THE FUNCTION OF THE RECURRENT LARYNGEAL NERVE: BEING A SERIES OF EXPERIMENTS FROM THE BIOLOGICAL LABORATORY OF THE JOHNS HOPKINS UNIVERSITY. BY DR. FRANK DONALDSON, JR., OF BALTIMORE.

IN a former paper read at a previous meeting the author had criticised certain conclusions advanced by Dr. F. H. Hooper. The conclusions which Dr. Donaldson had reached were: that the constrictors do not cease to act under deep narcosis or suspension of consciousness from any cause; that we do not always obtain abduction on irritation when consciousness is suspended; that the abduction was not reflex, and was not dependent on unconsciousness; that it is with weak stimuli that abduction takes place, and the movement passes into adduction as the stimulus is increased (these results invariably followed whether the animal was slightly or deeply narcotized, or when the medulla was destroyed, or when local death had taken place); that after strong and continued stimuli the abductor muscles became worn out and did not respond to stimuli.

These conclusions had been strongly criticised, and the present series of experiments were performed to test the correctness of the above views. He had shown that abduction of the vocal bands can be obtained without ether, and that it is a physiological fact that opening or closing of the larynx depends upon the strength of the stimulus. With weak stimuli abduction was produced, while with strong stimuli adduction was caused.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE; FROM THE PHYSIOLOGICAL LABORATORY OF HARVARD MEDICAL SCHOOL. BY FRANKLIN H. HOOPER, M.D., OF BOSTON.

The anatomy of this nerve is now complete and exact; but up to a very recent date much confusion existed on this subject. To find out why these nerves were recurrent it is necessary to begin with the embryo. The recurrence is due to certain changes in the branchial arches and the descent of the heart into the thorax. At one time in the period of development these laryngeal nerves are straight, but as the heart descends they are brought down. The proof of this is found in the abnormal condition of the nerve in cases of irregularity of the great vessels which branch from the aorta. These nerves (at least in dogs and cats) contain no sensory fibres.

The larynx possesses three functions, controlled by three distinct sets of muscles, all

innervated by the recurrent nerves. These functions are: 1, respiration; 2, sphincter action, which closes the larynx and prevents the entrance of foreign bodies, and plays an important part in expulsive acts; and, 3, phonatory action.

Stimuli applied to recurrent nerves produces adduction in certain animals (dogs), and abduction in other animals (cats). Only a few experiments have been made in man, but as far as they go they seem to show that stimulation closes the glottis. Under ether or profound morphia-narcosis, stimulation of the recurrent nerves produces opening of the glottis in dogs. Three hundred and twelve experiments were reported. Some of the animals were under the influence of chloral, chloroform, morphia, or ether. Under ether dilatation was produced with weak currents, while contraction could not be produced with even the strongest current. As the dog begins to come out of the ether, dilatation cannot be induced with any current, while contraction is brought about by currents decreasing in intensity as the effect of the ether passes off. A similar effect was observed in one case after the use of a large dose of morphia. After small doses of ether, stimulation produces two effects: first vibration, second closure. Under large doses of ether, four effects are observed, according to the intensity of the irritation: vibration, complete dilatation, mixed movement, and closure. After small doses of morphine, chloral, and chloroform, stimulation produces the same effects as after small doses of ether.

DISCUSSION.

In the discussion Dr. Knight cautioned the Congress with regard to rashly applying the results of experiments upon animals to the human subject. The effects vary greatly under circumstances which are not well understood.

Dr. Allen M. Starr, of New York, recently had had an opportunity to see in Paris some experiments by Charcot on hypnotized individuals. It is well known that in this state slight percussion of a nerve will produce contraction in the muscles supplied by that nerve. In one of these cases slight stroking in the course of the recurrent laryngeal nerve over the trachea, below the larynx, produced such adduction of the vocal cords and so interfered with breathing that it became a question whether it would not be necessary to resort to tracheotomy.

Dr. F. H. Hooper said that he had been unable to get the effect which Dr. Donaldson had described.

CERTAIN MEASURES FOR THE RELIEF OF CONGESTIVE HEADACHES. BY WILLIAM C. GLASGOW, M.D., OF ST. LOUIS.

The most severe symptoms in this condition are the pain and sense of constriction of the forehead. If the pain be analyzed, it will be found that it is of two kinds: one gives a dull sense of fulness and occasional throbbing over the temple; the other is of the sharp, lancinating character so generally known as neuralgia. At times both of these varieties are present in the same case. In the one there is fulness of the vessels, and in the other disordered nerve-action. Both varieties are often due to the same pathological condition of the nasal chambers. During congestive headache, if we examine the nose we find the cavernous bodies are full and tense; the degree of tenseness corresponds to a certain extent to the degree of headache. The method of treatment which he had adopted during the past four years had been the local abstraction of blood. A knife is not required; a simple prick of the mucous membrane is sufficient. In many cases the relief is immediate. The operation may have to be repeated in a month or two. He had seen few cases in which permanent relief had not followed a repetition of the operation from two to six times. The amount of blood drawn rarely exceeds an ounce. A number of illustrative cases were cited.

"A Case of Leucoplakia; Recovery," was the subject of a paper by Dr. W. C. Glasgow, of St. Louis, which was read by title.

DISCUSSION ON THE TREATMENT OF LARYNGITIS IN PROFESSIONALS WHO ARE UNABLE TO REST.

Dr. J. Solis Cohen, of Philadelphia, opened the discussion. When a professional has hoarseness the result of laryngitis and wants to use his voice in a few hours, the best method to enable him to do this, in his experience, is to administer a sharp emetic; then let the patient rest until the time of the performance, sucking pieces of ice and keeping a cold compress to the neck. In chronic laryngitis he had found nothing of so much service as a weak solution of sulphate of zinc (two grains to the ounce) used in a spray apparatus. In the intervals of the play the patient may inhale a little compound tincture of benzoin if he is hoarse. Another expedient of considerable service is the use of a respirator with turpentine, terebene, or eucalyptol, or something of that kind. He sometimes directs the patient to sprinkle a little turpentine on the floor of the bedroom, but was, however, not aware of any special method which is adapted to this class of individuals.

Dr. T. A. De Blois had had some experience with these cases, and had endeavored to keep up the systematic use of sulphate of zinc, but had found that the hoarseness continued unless the larynx is rested. Nitrate of silver gives excellent results, and the most disastrous results follow the use of cocaine. There seems to be a certain amount of relaxation following the use of muriate of cocaine.

In these cases we may conclude that unless there is rest there is no cure.

Dr. Beverly Robinson, of New York, said that his experience with the class of cases under discussion had led him to believe that, so far as the acute cases are concerned, there are milder measures than the use of an emetic. The use of tablet triturates of chloride of ammonium, repeated as often as once every fifteen minutes, is one of the most efficient methods of overcoming the difficulty. For local application there is nothing better than the carbolized spray. In the chronic form of laryngitis in vocalists we cannot obtain much information from the appearance of the mucous membrane. In these cases he had often found the membranes red, and this may continue after the trouble with the voice has disappeared. Here the difficulty is chiefly in the nervo-muscular apparatus. He found the internal use of a good wine of cocoa with the application of a faradic current to the neck very useful; the faradism to be repeated once or twice a day.

Dr. F. H. Bosworth, of New York, said that there is no such disease as laryngitis, as that term is used to mean an inflammatory process. The seat of the disease is not in the larynx, but in the nasal passages. If we apply cocaine to the nasal mucous membrane, causing contraction of the blood-vessels, and follow this by the use of chromic acid, thus eliminating the coryza, it will usually be found that the laryngitis has disappeared. Relaxation has been spoken of as following the application of cocaine. Although he had used the drug in many cases, he had seen this result in only two, and these were cases of hay-fever. His preferred method of using cocaine is to suspend it in fluid cosmoline and direct the patient to spray the nose and throat with it.

Dr. C. E. Sajous said that the action of cocaine in laryngitis is pernicious. In cold in the head it is useful, but should not be used within four hours of the time when it is desired to use the voice. In the majority of the cases of chronic laryngitis the condition is due largely to fatigue. Quinine and nux vomica internally, with the external use of a weak faradic current, are the best means to employ. Cocoa-wine is also advantageous.

Dr. W. C. Glasgow in this class of cases devotes himself entirely to the larynx and does not treat the nose. He usually employs applications of carbolized iodine to the larynx, which is a soothing application and relieves congestion. It also acts as a stimulant and enables the person to keep at his work; but it does not cure.

Dr. Morris J. Asch said that the best way to treat the acute cases is that which we pursue in other acute cases, which is the treatment suggested by Dr. Cohen except the emetic. The employment of muriate of ammonia is useful in solution in compound liquorice mixture. The chronic cases are more difficult to treat, because the patients cannot quit work. In them he had found nothing to equal the application of astringents. He had used the spray in some cases, but found that more good is done by the use of the brush. The solution which he most frequently uses is one of the perchloride of iron, thirty to sixty grains to the ounce. Where a person has to use the voice in a few hours, a single application will put him in a good condition temporarily. Another point to be considered is that these individuals live usually irregular lives, drinking wine and eating heartily. There is therefore nearly always some hepatic trouble which requires attention. He did not believe it possible to put the larynx of a singer in perfect order as long as he continues to work.

Dr. F. H. Hooper: In these professionals there is sometimes an alteration in the quality of the voice, the result of over-exertion, and owing apparently to a want of tension in one vocal cord. To relieve this he had used electricity outside, with the aromatic spirit of ammonia, thirty to forty drops to half a glass of soda-water, internally.

Dr. J. N. Mackenzie agreed with Dr. Bosworth with reference to the dependence of laryngeal disease on nasal trouble. The vast majority of cases of laryngitis are associated with disease of the nasal passages, and upon the recognition of this fact depends the successful treatment of many cases of chronic laryngitis. While admitting the existence of chronic primary laryngitis, he considered the majority of cases due to disease higher up in the respiratory passages. A caution is to be observed with reference to the indiscriminate use of cocaine in diseases of the nose and throat. It should never be applied just before a person is going to use the voice. The sensation which it produces in the larynx is only next to that of hanging. In the nose the effect is very pleasant, provided none of the solution be allowed to trickle into the larynx.

Dr. B. F. Westbrook, of Brooklyn: While it is true that many of these singers and elocutionists suffer from strain and overwork, it is probable that in the majority of such cases the seat of the whole trouble is in some derangement of the digestive apparatus which predisposes to these affections: therefore an emetic or active purgatives would be useful in many of these cases. After the emetic he usually gives small doses of the mineral acids, frequently repeated,—say one or two drops of dilute muriatic or nitric acid repeated every hour.

Dr. C. C. Rice, of New York, read a paper entitled "Glandular and Connective-Tissue Hypertrophies in the Lateral Walls of the Pharynx," advocating the employment of galvanism.

The next paper was by Dr. Charles H. Knight, of New York, on

THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS.

Among the objections to the cutting operation, the principal one is the danger of hemorrhage. Moreover, at times the tonsil is so deeply situated that it is not possible to get the tonsillotome over it. Patients sometimes positively object to the cutting operation. There are two methods of using the galvano-cautery: one is by puncture, and the other by the snare. The number of sittings required varies from five to ten, and not more than three punctures should be made at each sitting. The method with the snare is much the quicker. The current should be used intermittingly, and traction should only be made during the passage of the current. He did not recommend this as a universal operation, for in the majority of cases the cutting operation is easier and better. It is to be used where there is danger of hemorrhage; but in adults he was almost disposed to say that the galvano-cautery should always be used.

In the discussion the usual methods of treatment found advocates.

NOTE ON A FREQUENT CAUSE OF NASAL HEMORRHAGE. BY DR. BEVERLY ROBINSON, OF NEW YORK.

The ulcerations in cases of atrophic rhinitis had been a most frequent cause of hemorrhage in the experience of the speaker. He had found himself unable to detach the crusts from these ulcerations either by the use of douches or sprays, so well as by the employment of ointments. In the course of two or three days the patient is able to blow out the crusts. He had found no ointment act so well in imbibing the crusts and producing changes in the ulcerations as the ammoniated mercury ointment of the Pharmacopœia, of one-half or full strength, made up with vaseline. In applying plugs in the case of hemorrhage, he had found Steele's flexible probe useful, especially in children. He had found the so-called sheet-sponge a very good plug. This may be cut in long strips and pushed into the nostril until the bleeding is controlled by the pressure.

(To be continued.)

THE ASSOCIATION OF AMERICAN PHYSICIANS.

THE Second Annual Meeting of the Association was held in the Army Medical Museum Building, Washington, June 2 and 3, 1887.

On Thursday, June 2, the meeting was opened by an Address by the President, Dr. S. Weir Mitchell, of Philadelphia. He referred to the purposes of the Association as being purely scientific; it is not concerned about difficult ethical questions and medical politics. He hoped that all would endeavor to make the coming meeting of the Congress of American Physicians and Surgeons a success. He announced the death of three members during the year: Dr. Thomas F. Rochester, of Buffalo, Dr. Thomas A. McBride, of New York, and Dr. E. D. Hudson, Jr., of New York.

The first paper, entitled

CIRRHOSIS OF THE LIVER IN CHILDREN,

was read by Dr. R. Palmer Howard, of Montreal, who reported two cases in which cirrhosis of the liver was present in children,—brother and sister. He exhibited sections of the organ.

DISCUSSION.

Dr. William W. Welch mentioned one case in which cirrhosis had occurred in a child, 12 years of age, who came from the coast of Africa and suffered with malaria.

Dr. F. Forsheimer, of Cincinnati, had seen two cases that may possibly be called cirrhosis, which he attributed to syphilis: he thought syphilis the most common cause of cirrhosis of the liver in children.

Dr. William Pepper, of Philadelphia, mentioned a case in which cirrhosis of the liver followed measles in a child 8 years of age. There was no syphilitic history. During the attack of measles there were occasional attacks of catarrhal jaundice; subsequently the symptoms of cirrhosis made their appearance, and death soon followed. The whole duration of the case could not have been less than a year. At the autopsy a typical hob-nail liver was found. The liver had been much enlarged, but it had gradually contracted so that at the time of death it was of about the normal size.

OBSTRUCTIVE SAFETY-VALVE ACTION IN THE HEART AND DIRECT FUNCTIONAL MURMURS. BY JOHN GUITÉRAS, M.D., OF CHARLESTON.

The author had dwelt in a previous paper upon the significance of mitral direct presystolic murmurs, which were proved by the autopsy to be unconnected with any lesion of the mitral orifice. The lesions were those of intense aortic regurgitation. He had attributed the murmurs to the recoil of the blood upon the mitral leaflets holding them tense against the stream of blood coming from the auricle. In the opinion of the late Dr. Flint, direct functional mitral murmurs were limited to a small number of cases of aortic regurgitation, but the author thought that functional mitral murmurs were not so rare. Obstructive functional murmurs are common in aortic regurgitation.

Pulmonary systolic murmurs are more frequent than any other form of cardiac murmurs. In examining one hundred consecutive cases, he had found in sixty-two systolic pulmonary-artery murmurs. In these the murmurs were present during tranquil breath-

ing or during respiration in such a way as to produce changes in the pulmonary circulation. If account is taken of the bruits heard in this region the proportion becomes greater. The clearness with which these murmurs are heard depends upon the proximity of the artery, the thinness of the chest-walls, the nature of the surroundings, and, finally, the proximity of the main trunk to the capillary distribution. Systolic pulmonary murmurs can be developed in the majority of healthy individuals, if we exclude those with thick chest-walls and those who are not intelligent enough to modify their breathing as directed. The author held that such a murmur was a dynamic obstructive valvular murmur, and is produced by the effect of changes of blood-pressure upon the semilunar valves. A certain degree of pressure in the artery must tend to prevent the opening of the valve. This causes a slanting position of the valves and a narrowing of the orifice with the production of a sonorous whirl. The fact that such murmurs are not more frequently developed at the aortic orifice is due to the greater power of the ventricle and the wider distribution of the systemic circulation. There are, however, cases in which increased arterial tension is expressed not only by accentuation of the aortic second sound, but by an aortic systolic murmur. He had heard it in atheroma and in Bright's disease where there was no marked anæmia. Pulmonary-artery murmur as heard in ordinary breathing is confined to the expiratory act, and is loudest at the beginning of the act. The murmur is sometimes only heard with the first beat that occurs with expiration. In order to further develop this murmur it is only necessary to arrest respiration. It is better to stop breathing during expiration, especially at the end of normal expiration. A full expiration makes the murmur louder. At the end of inspiration it is more difficult to develop the murmur, for several reasons: 1, because it requires entire arrest of respiration to produce engorgement of the main trunk; 2, because prolonged inspiratory effort is accompanied by a continued hum of the intercostal muscles; 3, because the expansion of the lung interferes with the transmission of any murmur that may be present. A slight murmur is frequently heard in inspiration if the arrest of breathing is pushed far enough. The speaker asked, "Are we not justified in assuming that there is a safety-valve action in this attitude of the pulmonary valve which, together with the leakage at the tricuspid orifice, tends to prevent engorgement of the lungs by retardation of the flow of blood in the systemic veins, so that continued for a time it does no harm?" In reference to the murmurs of anæmia, the author thought that they were due to some disturbance of the valvular apparatus. In this condition there is a marked reduction in the quantity of blood. The valves require a certain amount of expansion of the vessels in order to allow them to apply themselves to the walls. Venous hums and basic murmurs he thought to be of valvular origin.

(To be continued.)

NEW REMEDIES AND CLINICAL NOTES.

Expectant Treatment of Extra-Uterine Pregnancy.—Dr. Beugnies-Corbeau, of Givet (Ardennes), describes in the *Union Médicale* of April 2 a case of extra-uterine gestation which had been left to nature owing to the mismanagement of a former medical attendant. He saw the patient in 1883. She was robust, and about 50 years old, and was subject to epistaxis. Twelve years previously she was pregnant for the first and last time. During her pregnancy she was subject to violent attacks of abdominal pain. Her physician believed that she was not pregnant, but that she had ovarian disease. At term she was seized with labor-pains. The physician came with all his instruments, and, after waiting for three days in the house without diagnosticating the case, went away believing, it seems, that he had to deal with an inflamed ovarian cyst or some kindred disease, which he was pleased to call "dropsy of the ovaries." After three years of ill health, an enormous abscess developed on the gluteal region, fragments of a fœtal skeleton came away through it, and a sinus was left which was very slow to heal. A second abscess opened in the same region on the opposite side, a third in the hypogastrium, and a fourth in the perineum. Both hip-joints became fixed apparently through muscular spasm. The last fistulous track discharged one of the scapulæ, which took five months in passing through the perineal structures. Being exceedingly tortuous, this fistulous passage remained open for two years. After so many years of suffering the patient was restored to perfect health. This case does not speak volumes in favor of the expectant treatment of extra-uterine pregnancy.

Corrosive Sublimate in the Treatment of Chronic Bright's Disease.—Dr. John C. Peters, of New York, says that in chronic catarrhal or tubal or parenchymatous nephritis milder remedies, like citrate or acetate of potassium, liquor potassæ, etc., may be tried first, aided by buchu. But sooner or later recourse may be had to corrosive sublimate, for which the fluid extract of buchu will prove a good and acceptable vehicle. It is also useful in some cases of cirrhosed or even lardaceous kidney, and there seems no special reason why it should not also be restorative in that most common and most important variety of kidney-disease,—viz.,

chronic diffuse nephritis. Its most obvious effect is an increase in the quantity of urine, which often rises from half a pint to three quarts and more per day, followed by a steady diminution of the dropsy and gratifying relief from all the most urgent symptoms. There will always be a large number of cases of kidney-disease in which no cure is possible, but only palliation and prolongation of life. Hence too much must not be expected, and a hasty rejection or abandonment of a good remedy should not be indulged in. For the kidney is not equally affected throughout all its parts, and the less injured portions may carry on reasonably well the depurative functions. We must conserve what is left of the kidneys. To get the full effect of corrosive sublimate upon the kidneys, salivation must be sedulously guarded against. The dose is one-twentieth to one-eighth of a grain with cinchona.—*Therapeutic Gazette*, December 15, 1886.

MISCELLANY.

THE Thirty-Eighth Annual Session of the Medical Society of the State of Pennsylvania was held at the Bedford Springs Hotel on June 29 and 30, and July 1, 1887. The account of this meeting will be published in our next issue.

DR. WILSON BUCKBY has removed to No. 1744 Diamond Street.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 19, 1887, TO JULY 2, 1887.

COLONEL CHARLES SUTHERLAND, SURGEON.—Granted one month's leave of absence, with permission to apply for an extension of one month. S. O. 126, Division of the Atlantic, June 23, 1887.

LIEUTENANT-COLONEL A. K. SMITH, SURGEON.—Will be relieved from duty at West Point, New York, on September 30, 1887, instead of on August 28, 1887. S. O. 144, A. G. O., June 23, 1887.

MAJOR J. C. MCKEE, SURGEON.—Granted three days' leave. S. O. 149, A. G. O., June 29, 1887.

MAJOR C. H. ALDEN, SURGEON.—Leave of absence extended to include September 29, 1887. S. O. 144, A. G. O., June 23, 1887.

MAJOR J. H. BARTHOLF, SURGEON.—Granted leave of absence for two months, to take effect about July 5, 1887. S. O. 141, A. G. O., June 20, 1887.

CAPTAIN CHARLES RICHARD, ASSISTANT-SURGEON.—Sick-leave extended two months on surgeon's certificate of disability. S. O. 139, A. G. O., June 17, 1887.

CAPTAIN JOHN J. COCHRAN, ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 143, A. G. O., June 22, 1887.

FIRST-LIEUTENANT WILLIAM N. SUTER, ASSISTANT-SURGEON.—Designated as medical officer for the Rifle Camp at Creedmoor, New York, July 5, 1887. S. O. 124, Division of the Atlantic, June 21, 1887.

CAPTAIN GEORGE T. BEALL, MEDICAL-STOREKEEPER.—Granted four months' leave of absence. S. O. 150, A. G. O., June 30, 1887.

CAPTAIN A. V. CHERBONNIER, MEDICAL-STOREKEEPER.—Directed to take charge of office and perform duties of acting-assistant-medical-purveyor in St. Louis, Missouri, during absence on leave of Captain George T. Beall, Medical-Storekeeper, now performing those duties. S. O. 150, A. G. O., June 30, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE TWO WEEKS ENDING JULY 2, 1887.

MEDICAL-INSPECTOR C. J. CLEBORNE.—Ordered for examination preliminary to promotion as Medical-Director.

PASSED ASSISTANT-SURGEON G. P. LUMSDEN.—Ordered to Receiving-Ship "Franklin," Norfolk, Virginia.

MEDICAL-DIRECTOR P. J. HORWITZ.—Permission to leave the United States for six months.

ASSISTANT-SURGEON H. N. T. HARRIS.—Commissioned Assistant-Surgeon in the Navy, June 13, 1887.

MEDICAL-INSPECTOR J. C. SPEAR.—Detached from Naval Laboratory and granted three months' leave.

MEDICAL-DIRECTOR DELAVAN BLOODGOOD.—Detached from Naval Hospital, Norfolk, Virginia, and to the Naval Laboratory.

MEDICAL-INSPECTOR MICHAEL BRADLEY.—Ordered to Naval Hospital, Norfolk, Virginia.

PASSED ASSISTANT-SURGEON H. G. BEYER.—Remain on present duty until September 1, 1887.

PASSED ASSISTANT-SURGEON C. G. HERNDON.—Remain on present duty until June 17, 1888.

PASSED ASSISTANT-SURGEON C. W. DEANE.—Ordered to the Naval Rendezvous, San Francisco, California.

ASSISTANT-SURGEON H. N. T. HARRIS.—Ordered to the Naval Hospital, Mare Island, California.

MEDICAL-DIRECTOR A. C. GORGAS.—Remain on present duty until December 31, 1887.

MEDICAL-INSPECTOR C. J. CLEBORNE.—Remain on present duty until December 31, 1887.

SURGEON BENJAMIN F. MACKEY.—Remain on present duty until December 31, 1887.

MEDICAL-DIRECTOR J. MILLS BROWNE.—Will remain on present duty as member of Retiring Board until June 30, 1888.

MEDICAL-DIRECTOR RICHARD C. DEAN.—Will remain on present duty as member of Retiring Board until June 30, 1888.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING JULY 2, 1887.

GUITÉRAS, JOHN, PASSED ASSISTANT-SURGEON.—Detailed for temporary duty at Key West, Florida, June 23, 1887.

WASDIN, EUGENE, PASSED ASSISTANT-SURGEON.—Relieved from duty at Marine Hospital, New York; ordered to Marine Hospital, Chicago, Illinois, June 23, 1887.

NORMAN, SEATON, ASSISTANT-SURGEON.—To proceed to Charleston, South Carolina, for temporary duty, June 23, 1887.

HEATH, F. C., ASSISTANT-SURGEON.—Relieved from duty at Chicago, Illinois, June 23, 1887.

ARMSTRONG, S. T., PASSED ASSISTANT-SURGEON.—Relieved from duty at Marine Hospital, Memphis, Tennessee; ordered to Marine Hospital, New York, June 27, 1887.

PECKHAM, C. T., PASSED ASSISTANT-SURGEON.—Relieved from duty at Marine Hospital, Wilmington, North Carolina; ordered to Marine Hospital, Memphis, Tennessee, June 27, 1887.

GLENNAN, A. H., PASSED ASSISTANT-SURGEON.—Ordered to Revenue Cutter "Crawford" for temporary duty, June 30, 1887.

BROOKS, S. D., ASSISTANT-SURGEON.—Ordered to examination for promotion, June 27, 1887; relieved from duty at Evansville, Indiana; ordered to Marine Hospital at Wilmington, North Carolina, June 27, 1887.

PHILADELPHIA, JULY 23, 1887.

ORIGINAL ADDRESS.

ANNUAL ADDRESS OF THE PRESIDENT OF THE STATE MEDICAL SOCIETY OF PENNSYLVANIA.

Delivered at the Annual Meeting held at Bedford Springs, June 30, 1887,

BY R. DAVIS, M.D.

WE are living in an age of tumultuous mental activity. Science and art have advanced with giant strides. In both variety and extent, as well as in rapidity of development, their attainments have been prodigious. We are amazed when we reflect that there are men still living, and possibly within the sound of my voice, who can recollect when London Bridge was first lighted with gas; when steamboats and locomotives made their first experimental trips; when the first announcement was made that light itself could be made to paint the picture which it renders visible to our eyes; that electricity could transmit news with the velocity of light across continents and oceans, and that it could banish night with a light as clear as that of day.

Imagine, if you can, the confusion bordering on chaos which would be precipitated upon the world if it were again suddenly deprived of illuminating gas, the steam-engine, the railroad, the ocean steamer, the telegraph, the telephone, electric lights, and the thousand other practical applications of science which have come within a few years!

Hardly less stupendous are the movements in the philosophical world. Truly has it been said of the Darwinian theory that "it was a revelation which startled the whole world. It shed a light on the science of life which necessitated a rewriting of its history, destroying at a blow many previous systems of thought." Similar great changes have been wrought in the religious thought of to-day, as well as in the science of government. Everywhere "old forms of belief are being assailed and are crumbling to decay. Old things are passing away; a host of ancient prejudices are tottering to their fall; and such is the rapidity with which we are moving that scarcely have they been levelled with the dust when new creeds spring vigorously from their ruins."

The science of medicine has not escaped the general upheaval of thought which has characterized other fields of mental activity. Here, as elsewhere, primeval faiths have been shattered, and ancient ideas have been made to give way to the speculations and discoveries of the day. Revolutions in medicine have been witnessed almost equalling in magnitude those wrought by steam and electricity. Vaccination and induced anæsthesia are discoveries which are entitled to be placed among the wonders of science, and in the same rank with the railroad and the telegraph.

Just now I asked you to imagine how great the confusion and loss which the world would suffer if it were now suddenly deprived of steam-power, electricity, and illuminating gas. That we may appreciate the great changes—nay, let us call them advances—which have been made in medicine in the same period, I now ask you to try to picture to yourselves what would be our condition as a profession if we were again deprived of the knowledge of the prophylactic power of vaccination; the knowledge of auscultation and percussion; the knowledge of renal pathology as inaugurated by Bright; the differentiation of typhoid from typhus fever; the discovery of the reflex system of nerves; the appreciation of the self-limitation of certain diseases and knowledge of their natural history; the use of medication by the hypodermic method; the discovery of anæsthesia and its application in medicine, surgery, and obstetrics; the creation of histology and gynæcology; the discovery of new methods and instruments of research and diagnosis, by means of the microscope, stethoscope, clinical thermometer, laryngoscope, ophthalmoscope, and electric light; the knowledge of the impunity with which the peritoneal cavity may be invaded for the removal of tumors, foreign bodies, collections of matter, and even for the repair and removal of injured or diseased organs; the great advances in hygienic knowledge and preventive medicine; and, finally, the more recent and vastly important revelations respecting bacterial etiology and antisepsis. All this and much more was as a sealed book to those who lived prior to the birth of the oldest man present to-night.

An age of such intense mental activity is one favorable to progress, and progress is everywhere visible. But it is also an age highly favorable to the development of *scepticism*, and that, too, is visible everywhere. It defiantly unfurls its banner upon every rampart of thought; it invades no less the domain of medicine than that of religion; it is rampant in our midst to-day; it pursues the physician everywhere,—to the seclusion of his study, to the assembly of his fellows, and, alas! too often, to the bedside of the sick, palsying there the hand that should be strong for succor.

The student of medicine cannot have proceeded far in his course ere he is made painfully aware of the existence among medical men of this feeling of a lack of faith in the power of remedies to control or favorably influence the course of disease. Every avenue of information open to him is more or less tainted with this scepticism. He encounters it in the teachings of professors of colleges, in the medical writings of the day, and in his intercourse with medical men. "The older I grow, the less faith do I have in medicine," says the physician of lifelong experience. "I am tired of imposing upon the public," is the reason given by another for retiring from practice. Others boldly disavow their belief in the potency of any remedy whatever, and deliberately state their belief that disease is infinitely better left to itself. One distinguished medical teacher, who is also poet, author, and wit, declares, "If all the medicines were cast into the sea, it would be all the better for men, and all the worse for the fishes." Another author, in a work devoted to a careful consideration of the question of how much art can accomplish in the cure of disease, concludes as follows:

"In only a very minute proportion of the numerous diseases presented to us in practice, and these few for the most part of slight importance, are we able to act positively on the diseased part or its morbid condition; while the whole large remainder of diseases can be only indirectly and distantly and slightly touched by our agents in any case, and in a large proportion of cases cannot be touched at all." And again, "Only in a minute proportion of cases can it be asserted with the certainty of truth that the mediation of art has saved life that would have been lost without its interference; in other words, has of itself positively *cured* disease."

There can be no mistaking this language of Sir John Forbes. Indeed, he strongly inclines to the opinion that, if the balance could be struck between the good and the evil done by medical interference, especially with the acute diseases, the evil would be found to preponderate. He graciously adds, however, that he would by no means infer from this that the services of medical men at the bedside can be dispensed with; an inference which, though it may not be entirely clear how it can logically follow, is yet very acceptable to those of us whose daily business it is to administer to the wants of the sick.

There is also much of scepticism lurking in what is said and written concerning nature's efforts to cure disease,—the *vis medicatrix naturæ*, as it is called. We are told that we must not interfere with nature; we must not place obstacles in her path or attribute to ourselves what belongs to her. Or, we must imitate nature, assist nature, guide nature, etc. There is often more in this to perplex than to instruct. What definite idea, for example, of the physician's duty at the bedside can be derived from the perusal of the following, which is from the pen of a distinguished author and teacher?—

"Unfortunately, the temptations of the physician to active interference with the course of disease seem to be irresistible, and hence he acquires the habit of treating nature as if she were a laggard in her duty and required to be smartly pricked at times to prevent her slumbering at her post." This, if it means anything, means that you should do nothing. Nature needs no prompting, no aid, no guidance, no support. Our mission is simply to *watch* nature.

But most of those who write in this strain admit that at times nature goes astray and needs the guiding hand of the physician; or she may need his aid in the curative efforts which she may be making; or she may become exhausted in the struggle, and when her powers begin to fail then it is the physician's prerogative to come boldly to her support.

A blatant sceptic recently expressed himself upon this subject as follows:

"A doctor's faith in physic is the measure of his intellect. It is always in inverse proportion. Confidence in God and

nature points to large comprehension. If we have been nature's adjuncts in her extremity, we have fulfilled our mission."

At the conclusion of a recently published paper on this subject by another writer I find the following: "The true physician is he who watches with intelligent eye, though often sparing hand, the course of disease towards health; who aids, when needed, the curative efforts inaugurated by nature, and who boldly, heroically supports the failure of vital organs at the crises of disease." But when I turn to the body of the article to learn what the author regards as evidence of the "curative effects inaugurated by nature," I find that the burden of his argument has been to prove that pain, fever, and inflammation are among the most beneficent of nature's therapeutic measures. Pain is nature's method of securing rest; fever is her means of killing the "disease-germs;" and inflammation is only nature's necessary means of repairing injury!

If, therefore, I would aid the "curative efforts inaugurated by nature," I must, I suppose, when pain is present, do what I can to increase it; or if fever, high temperature, exists, I must add fuel to the fire in order to make it too hot for the germs; and if inflammation, that most beneficent of all of nature's therapeutic measures, be present, I must "aid nature" by increasing its intensity!

Now, this may be an example of very advanced thought; it may be the "therapeutics of the future." But for the present I am free to say that I am not quite prepared to accept the new gospel, or to depart from the "good old way" of doing what I can to alleviate pain, to cool the hot blood of fever, and to quench the burning, destructive fires of inflammation.

What can we cure? is the momentous question which is thus forced upon our attention.

As we have seen, the answer which the extreme sceptic makes to the question is, virtually, "Nothing. Disease is better left to the natural physiological energy of the body, which is the only element in its cure." Others, less dogmatic, admit that "in a minute proportion of cases" some good may be done and lives saved by the intervention of art.

What is our answer to the question? Are we prepared to admit that we are all pursuing an *ignis-fatuus*, or that our power over disease is so inconsiderable? And especially are we willing to acknowledge that the evil done by treatment is more than enough to counterbalance the good?

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Very different from the views of these sceptics are those still entertained by the people upon this subject. The popular belief continues to be that medication has a most important part to play in the cure of *every* disease. The public mind has not yet been disabused of the idea that for every bane nature has provided an antidote, and for every disease a curative leaf or root; and that when sickness comes the subject of it cannot possibly recover unless he "takes something" or "does something" to cure it.

Physicians have now come to know that this is an erroneous idea. We are all now tolerably familiar with the fact that many diseases are self-limited and tend intrinsically to recovery; and, therefore, that a large proportion of the cases of illness which occur among men would get well of their own accord and without any treatment whatever. Patent as this truth is to us now, yet it is one which the profession was long in recognizing.

It is only sixty-five years since Dr. Jacob Bigelow wrote and published his celebrated paper on self-limited diseases, and to that paper is generally accorded the credit of being the first to contain a distinct enunciation and demonstration of the truth that self-limitation is one of the laws that govern a large number of morbid processes. Subsequent investigation has served only to demonstrate more clearly the correctness of Dr. Bigelow's conclusions, and to lengthen greatly his catalogue of self-limited diseases. The great importance of this discovery is now generally conceded. It constitutes one of the most important epochs in the medical history of the century. Its influence upon therapeutics has been very great. It was the forerunner and great moving cause of that great change in practice, amounting to a veritable revolution, which consisted in the abandonment of what is known as the antiphlogistic treatment—blood-letting, purging, vomiting, mercurialization, counter-irritation, and starvation diet, including the withholding of cold water in fever—and the substitution therefor of what is known as the expectant treatment.

It is not my purpose to discuss the rela-

tive merits of these two plans of treatment, further than to express the conviction that, while the contribution to therapeutics of the expectant treatment has, in the language of Dr. Draper, "exposed many fallacies, dispelled many delusions, spared much needless suffering, and saved many lives," yet, on the other hand, it is itself chargeable with very grave errors, and has retarded in many ways the progress of the art of healing; and prominent among the evils it has engendered is this very scepticism in medicine which we are now considering.

The proneness of the human mind to run to extremes is well known. Having made the discovery that some diseases are self-limited, and being convinced that the old system of indiscriminate blood-letting, with large and frequent dosing, was in many cases not only unnecessary but productive of great harm, many medical men have rushed to the opposite extreme of therapeutic nihilism, allowing "nature," unaided and undisturbed, to continue on "in the even tenor of her way," thus embracing an error even more pernicious than the former.

Fellow-practitioners, how shall we convince, not the sceptics, for that would be a hopeless task, for sceptics in medicine, as elsewhere, deny established facts, and reject the evidences of their own senses,—but how shall we convince *ourselves* that our occupation is not entirely gone, that we still possess some curative power over disease, and that we are able, at least to some extent, by means of remedial measures to save lives that otherwise would be lost?

Several ways suggest themselves by which we may arrive at some conclusion upon this vital question of how many lives we are able to save by treatment.

For example, it would not be difficult, I fancy, to adduce from vital statistics convincing proofs that medical treatment, which in its widest signification includes not only the management of individual cases of illness, but also the prevention of disease and a supervision of the general bodily welfare, is capable of saving, and must be credited with having been the means of saving, many millions of human lives. It is claimed by statisticians that since the commencement of the present century human life in civilized countries has been prolonged more than thirty-five per cent., that the average duration of disease has been shortened fifty per cent., and that the average death-rate has been correspondingly lessened.

Sir T. Spencer Wells, in his inaugural address delivered last October before the Sanitary Congress, claimed that fifty years ago the average duration of life in Great Britain was about thirty years. *Now*, according to the healthy-life table, it is forty-nine years, a gain of nineteen years! It is certainly fair to conclude with him that a very large share of the credit for this very remarkable result is directly due to medical and sanitary works.

Some diseases, like the scurvy, once so wide-spread and destructive, and the plague, which in one year in London literally decimated the population, have in recent years, through the agency of medical science, been wellnigh banished from the civilized portion of the world.

Think also of the countless thousands of lives, to say nothing of the suffering and deformity, which have been saved by the discovery of vaccination alone.

A hundred years ago, epidemics of smallpox were as common and wide-spread as those of measles are now; and it was as rare for any one to grow up to manhood and womanhood without having suffered an attack of it, and bearing its ugly brand upon the person, as it is now to find an adult who has not had the mumps or the chicken-pox.

The mortality from this loathsome disease was then simply appalling. According to Professor Koch, of Berlin, one-twelfth of the human race was killed by it. In Sweden, according to the same high authority, eighty thousand people died annually of smallpox, while the number of deaths from this cause after the introduction of compulsory vaccination amounts to less than one thousand. Here, then, is a saving of seventy-nine thousand lives annually in that country alone by vaccination. Verily, therefore, has Jenner's discovery closed up one of the flood-gates of death.

Again, the records of hospitals throughout the world show that with the advance in medical knowledge and improved methods of treatment the rate of mortality in them has steadily and progressively diminished, not only in their surgical and obstetrical departments, but also in their medical. As proof that this diminished

mortality is in great part directly due to improved therapeutical methods, I might cite the records relating to typhoid fever in some of the great German hospitals. Those of the hospital at Basle are especially instructive.

From 1843 to 1865, which comprises a period when all therapeutic wisdom was supposed to have culminated in the expectant plan of treatment, the rate of mortality from typhoid was *twenty seven per cent.;* but since 1865, when active and systematic antipyretic treatment was adopted for this disease, the mortality has been reduced to *less than ten per cent.*

Other examples equally convincing might be given.

Another way of considering this question of how many lives we are able to save by treatment is in connection with the action of individual articles of the materia medica. Thus, it may be shown that Peruvian bark, since the discovery two centuries ago of its curative power in ague, has been the means of saving many millions of lives in this disease alone. It is claimed that in England, previous to the introduction of this remedy for intermittent fever, one in four and a half of all deaths was due to this disease, while after the use of this remedy and its alkaloid became generalized, only one death in three thousand was due to ague.

To appreciate the value to mankind of this drug, one needs to have lived in a distinctly malarious district during the prevalence of an epidemic of this disease, such as existed in many parts of Illinois in the fall of 1865, when so many were ill with it that it was found impossible to hold the courts, for want of judges, jurors, lawyers, clients, and witnesses; and as an illustration of the potency of this remedy I cite the fact that the notes of Dr. Dewitt, of White Hall, Illinois, show that for three months during the prevalence of this remarkable epidemic he found it necessary to make, on an average, but one and a half visits to a patient, including those ill with other diseases. In view of the great fatality of the disease and its tendency to continue indefinitely if left to go untreated by quinine, this result is one certainly not to be despised. Indeed, without quinine, many of the most productive parts of the world, and especially of our own great country, would be uninhabitable.

Opium is another drug which must be credited in a high degree with the life-saving power. One enthusiastic writer declares that "opium has assuaged more pain, soothed more sorrow, and saved more lives than all the other remedies in the materia medica." No fact in therapeutics is better established than that of the curative power of opium in peritonitis,—curative, that is, in the sense of arresting the disease and saving life.

And thus we might go on interrogating one agent after another,—alcohol, chloroform and ether, chloral, the bromides and iodides, mercury, ergot, salicylic acid, antipyrine, water, electricity, and many other agents; or we might extend the inquiry to whole classes of remedies,—the cathartics, the emetics, alteratives, tonics, diuretics, sedatives, antipyretics, and so through the list,—and the result of the inquiry could not fail to be to convince every candid mind that in something more than a "minute proportion of cases" we are able with these agencies so to act upon the various organs of the body as to cure diseased conditions and avert impending death.

But probably a truer estimate of the value of medication may be obtained by considering the subject in connection with the objects which the physician aims to accomplish by treatment. Measures of treatment such as are resorted to when disease already exists in the body are either abortive, curative, palliative, or supporting.

With reference to the first, it must be admitted that with our present knowledge the range in which abortive measures are effective is not very large. Quinine will abort an ague, and morphine given hypodermically will abort cholera morbus. Many contend also that opium given in the first stages of epidemic cholera will in a great number of cases "nip in the bud" that dread disease. Our fathers also believed that many of the acute inflammatory diseases could be arrested in their incipiency by a copious bleeding; and it is worthy of note that not a few of the ablest and most conservative thinkers of the present day are beginning to believe that they were more than half correct in their conclusions. It is especially worthy of note that the late Dr. Austin Flint, the great apostle, as was claimed, of conservatism in treatment, who was even accused, though unjustly, of a leaning towards therapeutic nihilism, had, in the last

communication which he was privileged to make to the profession,—the great address prepar d for the British Medical Association on "Medicine of the Future,"—placed on record his belief that "by the abandonment of blood-letting a useful measure of treatment was given up," and he confidently predicted that "the time will come—and that ere long, for it is now foreshadowed—when it will have its proper rank among therapeutic agencies." These remarks concerning blood-letting he made "with the understanding that they are, to a greater or less extent, applicable to the other so-called antiphlogistic measures."

The acknowledgment must be made, however, that the vast majority of acute affections are insusceptible of being suddenly arrested in their course by any remedies now known to us. The great error underlying the system of treatment pursued by our fathers in these cases consisted in their always making violent efforts to expel or throttle the disease by means of "medicinal dynamics:" all their efforts being directed towards the discovery of specific remedies.

The main battle-ground between the modern sceptic and the rational therapeutist is reached when we come to the consideration of *curative* measures of treatment. The sceptic contends that for the acute inflammatory and infectious diseases especially we have no curative agents. These he says are self-limited diseases, and will run their course uninfluenced by medication.

On the other hand, the rational therapeutist, while admitting their self-limited character, that the majority of cases will recover without treatment, and that, with the exception of quinine in ague, mercury and iodine in syphilis, salicin in rheumatism, opium in certain inflammatory and spasmodic diseases, and a few others, no *specifically curative* agents are known to us, is by no means willing to admit that therapeutics can render him no aid. Remembering that without treatment a large proportion of these cases will terminate fatally, the task which he sets for himself is to prevent this mortality. He now bends all his energies not so much to arresting the course of the disease as to *bringing his patient through it alive.*

Liebermeister says, "The disease will come to an end without any of our assistance; but the special business of the physician is to see to it that the patient outlives the disease. And this duty," he continues, "can often be accomplished by the application of symptomatic treatment in its wider sense, as well as through dietetic regulations. On the one hand, we must see to it that the usual incidents of the disease, if they show a tendency to grow especially burdensome or dangerous, as well as any suspicious accidental developments, are held within check, and so far as possible weakened in their power; on the other hand, we must strive to maintain the patient in such condition that he shall be able to offer the longest and the strongest resistance to deleterious influences of which his constitution is capable."

This is an admirable presentation of the principles which should govern our conduct of these cases. The statement that the physician should "see to it that the patient outlives the disease" is a truth which every practitioner, but especially every doubting Thomas among us, should have indelibly engrafted upon the mind.

Give specifics whenever you have good reason to believe in their existence; throttle the disease in its incipiency whenever you are sure it can be done; but when, as is generally the case, you are satisfied that this cannot be accomplished, then turn your attention to the patient, and "see to it" that he does not die before the disease has spent its force.

An important principle to be observed in the accomplishment of this object is that we should bend every effort to secure for the patient as nearly a normal condition as possible. In other words, the more comfortable we can make him, the more sleep we can secure for him, the more naturally his secretions are maintained, the more sure is he to recover.

Permit me a single illustration. Given a case of typhoid, scarlet, puerperal, or other fever, in which excessive elevation of temperature is a principal source of danger. The patient's temperature is 105°, his tongue is dry, he is wakeful, restless, and wildly delirious. You administer a full dose of antipyrine, with cold sponging, and in an hour his temperature is reduced to 102°, he perspires, his pulse softens, his tongue moistens, his delirium vanishes, and he falls into a refreshing sleep, lasting several hours. Is it possible that this is not an important factor in conducting the case to a successful issue? To conclude

otherwise is to disregard the teachings of experience and to violate the dictates of common sense. Granted that the fever with all the other distressing symptoms will return again and again, and the disease continue on unabridged in its duration; yet it cannot be that the drain on the vital energies produced by the high temperature will not be lessened, and thus often the vital spark be preserved which otherwise would be utterly extinguished. So even is the balance often between life and death in severe cases that a single respite of a few hours from distressing symptoms, such as active antipyretic treatment is capable of securing, is sufficient to turn the scale in favor of a restoration to health.

Call this expectancy if you will; but it is not that kind of expectancy which consists in a mere passive waiting on events, or which is inconsistent with "active interference with the course of disease," or which forbids our "treating nature as if she were a laggard in her duty and required to be smartly pricked at times to prevent her slumbering at her post." On the contrary, it is that kind of expectancy which admits of the use of the most potential medicines, not excepting the old abandoned antiphlogistic measures of blood-letting, purgation, and the rest,—provided that the one grand object be attained of preserving the patient's life until the disease ends. And the triumph of the physician who does this, if not quite so brilliant, is yet just as real as if he had throttled the disease in its incipiency. The mariner who amidst the storm steers his craft so skilfully as to prevent her being submerged by the waves or dashed against the rocks has just as truly saved the lives of those on board as if he had said to the winds and the waves, "Peace, be still," and been obeyed.

Measures of treatment instituted with a view to guarding against any dangerous accidental developments have a wide field of application, and when skilfully applied result in a vast saving of life. Measures used to prevent perforation of the bowels in typhoid fever, and to guard against systemic infection in diphtheria, are examples of this class.

But the most conspicuous example of their use, the one attended with the most brilliant results, is seen in the application of the principles of antisepsis to the surgical dressing of wounds. The accounts given of the results attained by this treatment in our hospitals read like a fairy-tale. Operations fearlessly undertaken which, even ten years ago, were regarded as without the pale of legitimate surgery; compound fractures made to unite without suppuration; amputation and resection wounds healing without the formation of a single drop of pus, and with a single dressing; large cold abscesses opened and their cavities made to close without further suppuration; large, deep arteries tied and the wounds permanently closed without fear of secondary hemorrhage; pus as an outcome of surgical operations a thing of the past; septicæmia, pyæmia, and erysipelas banished from the wards,—such is the account everywhere given of the results of this treatment. Verily, Listerism has revolutionized the art of surgery, and enables us now to save thousands of lives which, under the best treatment which prevailed even ten years ago, would have been lost.

But why should I longer weary you with attempts to point out the many ways in which remedial measures may be made available in the cure of disease? I could not hope, if that were necessary, to go over the whole ground. That I have not done so is evident from the fact that I have said little or nothing of what may be accomplished by the surgeon, the obstetrician, and the gynæcologist. I have said nothing of the large number of curable chronic diseases, which, though not all necessarily fatal when not treated, yet tend to continue on indefinitely and make life a burden. Neither have I attempted to point out how life may be prolonged, and existence made more tolerable, while it lasts, for those afflicted with confessedly incurable or necessarily fatal diseases. But I trust I have said enough to warrant me in saying—which I feel I may do in the name of this great Society—that there is absolutely no just ground for the existence of the pessimistic views of medicine which I have been combating.

While acknowledging that our art has not yet reached that degree of perfection which we all desire to see it attain,—that there are, alas! yet too many diseases over which we possess little or no curative control,—yet we contend that we are day by day making rapid strides towards the attainment of that perfection, that the number of incurable diseases is constantly diminishing, that the science is daily be-

coming more practical and the art more scientific, and that now enough of good can and is being accomplished by its instrumentality to justify the warmest enthusiasm of its votaries, and to entitle it to a place first in importance to mankind in the catalogue of arts.

It ought to require no argument to prove that scepticism in medicine is a great evil, and a hinderance to progress. I cannot conceive how a sceptic can be a good physician. He may be profoundly versed in the history and pathology of disease, but, as Broussais has well said, "the real physician is the one who cures; the observation which does not teach the art of healing is not that of a physician; it is that of a naturalist,"—a truth which I would especially commend to the consideration of those teachers of the theory and practice of medicine who spend hours in describing the lesions and natural history of disease and dismiss the principles and means of cure with few and distrustful words.

The sceptic in medicine must not only be devoid of enthusiasm in his work at the bedside, but he must also be lacking in resources, and "a physician without resources is a soldier disarmed: he inspires no confidence."

What man of us would not choose, if he were ill, to trust himself to the care of a physician who, like my gifted and scholarly friend and fellow-townsman Dr. Mayer, believes that "we have now means and remedies capable of controlling all the remedial morbid conditions of the human frame," and that "the success of modern medicine in the hands of cultivated practitioners is a matter of marvel, and is nearly all that we can desire,"—who, I say, would not sooner trust his life to a physician of such *large* faith, rather than to one who mockingly declares that the measure of a doctor's intellect is in inverse proportion to his faith in medicine?

I will close this address, already grown too long, by bringing before you a picture of the ideal physician drawn over fifty years ago by one of the ablest physicians and most attractive clinical teachers of the century, Latham, simply remarking that I cannot conceive it possible for a transcendent therapeutic doubter to become such a physician as is here described:

"Diseases are not abstractions; they are modes of acting, different from the natural and healthy modes,—modes of disorganizing, modes of suffering, and modes of dying; and there must be a living, moving, sentient body for all this.

"This body must be your study and your continual care,—your active, willing, earnest care. Nothing must make you shrink from it. In its weakness and infirmities, in the dishonors of its corruption, you must still value it, still stay by it, to mark its hunger and thirst, its sleeping and waking, its heat and its cold, to hear its complaints, to register its groans.

"And is it possible to feel an interest in all this? Ay, indeed it is; a greater, far greater, interest than ever painter or sculptor took in the form and beauties of its health.

"Whence comes this interest? At first, perhaps, it seldom comes naturally; a mere sense of duty must engender it; and still, for a while, a mere sense of duty must keep it alive. Presently the quick, curious, restless spirit of science enlivens it, and then it becomes an excitement, and then a pleasure, and then the deliberate choice of the mind.

"When the interest of attending the sick has reached this point, there arises from it, or has already arisen, a ready discernment of diseases, and a skill in the use of remedies. And the skill may exalt the interest, and the interest may improve the skill, until, in the process of time, experience forms the consummate practitioner.

"But does the interest of attending the sick necessarily stop here? The question may seem strange. If it has led to the readiest discernment and the highest skill, and to form the consummate practitioner, why need it go further?

"But what if humanity should warm it? Then, this interest, this excitement, this intellectual pleasure, is exalted into a principle and invested with a moral motive and passes into the heart. What if it be carried still further? What if religion should animate it? Why, then, happy indeed is that man whose mind, whose moral nature, and whose spiritual being are all harmoniously engaged in the daily business of his life; with whom the same act has become his own happiness, a dispensation of mercy to his fellow-creatures, and a worship of God.

"Such a man any of you may be; but you must begin by learning to stand at the sick-bed and make it your delight."

ORIGINAL COMMUNICATIONS.

OVARIAN TUMOR COMPLICATING PREGNANCY.

Read before the State Medical Society by title

BY E. E. MONTGOMERY, M.D.,

Professor of Didactic and Clinical Gynæcology in the Medico-Chirurgical College, Obstetrican to the Philadelphia Hospital, etc.

THE field of ovarian disease has been so often gleaned that the hasty observer may deem it impossible to cull anything new therefrom. While I do not, in this paper, make any pretence to special originality, I hope to be able to present what experience teaches to be the most successful method of treating "Pregnancy complicated by Ovarian Tumor."

It may be questioned whether this complication is frequent enough to render the subject of sufficient importance to occupy the time of this scientific body. Its frequency may be appreciated when I am able, from a very cursory investigation of the literature, to present tables of over one hundred and fifty cases.

Ovarian disease does not preclude the possibility of conception so long as the ovaries contain healthy ovarian stroma.

In Spencer Wells's first one thousand cases of ovariotomy over two hundred children have since been born. A woman upon whom I did ovariotomy in the Philadelphia Hospital in 1879, whose second ovary contained so many cysts that its removal was debated, has been treated in the same institution for abortion. Schroeder, with the knife, and Pippingskoeld, with the galvanic cautery, have destroyed the cystic tissue of the second ovary, and the woman subsequently became pregnant. Indeed, rare instances have shown that the removal of the ovaries is not an absolute safeguard against conception. In such cases there are undoubtedly rudimentary masses of ovarian stroma or supplementary ovaries.

This probability of subsequent conception is a strong argument for the preservation of the second ovary during the period of sexual activity. Instead of complete extirpation, we should follow the course of Schroeder and Pippingskoeld.

The investigations of Jetter have shown that any form of ovarian cyst may complicate pregnancy. Of his collection of one hundred and sixty-six cases, ninety-seven were cystomata, thirty-seven dermoid, eleven carcinomata, and twenty-one uncertain. In a majority of the cases the tumor had existed for a length of time before pregnancy.

It is frequently asserted that owing to the pelvic hyperæmia consequent upon pregnancy the growth of these tumors is greatly accelerated. This growth, however, is probably more apparent than real. The great distention and distress are due to the natural growth of the tumor, plus the accompanying development of the uterus. Wernich not only accepts the accelerated growth as an established fact, but asserts that benign cysts, during pregnancy, are more likely to take on malignant action. Ruge explains the latter by claiming that the malignant element was originally present.

The dermoid cysts, from their smaller size, are most frequently found in the true pelvis.

The situation and size of the tumor are of marked significance in determining the prognosis. Of seventy-five cases, including those of Playfair, the tumor was found in the recto-vaginal septum in forty-one, on the right and left sides each five times. When small, the growths may frequently be overlooked, and the hinderance to delivery remain undiscovered or be ascribed to pelvic narrowing. Grigg's post-mortem researches in puerperal septicæmia render it probable that many cases of this disease are due to injury of unrecognized ovarian tumors during parturition.

The diagnosis of the coexistence of pregnancy and ovarian tumor is of the greatest importance, and oftentimes a difficult problem, but the limits of this paper will not permit of its discussion.

The mortality of ovarian tumor complicating pregnancy treated by the expectant plan is frightful. In the seventy-five cases culled from literature, thirty-one, or forty-one per cent., were fatal, while but twenty-two children, or twenty-nine per cent., are quoted as having been saved. The maternal mortality differs but little from that given by Litzman,—maternal, forty-three per cent.; fœtal, eighty-three per cent.

Such a death-rate urgently demands the investigation of other plans of treatment. When we come to the consideration of ovariotomy during pregnancy, we find far better results.

In the accompanying table of sixty-one cases, but seven, or less than eleven per

cent., were fatal; thirty-nine went to full term, or reached the period when the child became viable. The comparison of the results of ovariotomy (maternal mortality twelve per cent., fœtal mortality thirty-five per cent.) with those of the expectant treatment (maternal mortality forty-three per cent., fœtal mortality eighty-three per cent.) unquestionably demonstrates the value of the former. It is seen that the presence of pregnancy does not materially enhance the danger of ovariotomy. Further, it is rendered prominent that after performing ovariotomy the prognosis is extremely favorable for mother and child.

Finding that ovariotomy can give such good results, it remains then to be taken in consideration in each individual case.

The following points naturally present themselves for discussion:

1. Is ovariotomy the most secure and best proceeding for the removal of the complication?

2. Shall one in all cases do ovariotomy?

3. When is the most favorable time for its performance?

Those having large experience, as Spencer Wells, Tait, Cauchois, Olshausen, and the late Carl Schroeder, unite in commending ovariotomy as the most desirable proceeding. Most agree that it should be done at once in recognized ovarian tumor during pregnancy, on account of the danger of rupture of the cyst, twisting of the pedicle, exhaustion of the patient from the great abdominal distention, the possible complication of labor from the presence of the tumor, and the greatly increased mortality where ovariotomy is required during the period of puerperal convalescence. Its early performance is especially important when we take in consideration that Cohn has proved every sixth tumor to be probably malignant.

With the experience before us of the late Carl Schroeder, of fourteen cases and no deaths, Spencer Wells and Tait each eleven cases with one death each, the presence of pregnancy should hasten rather than retard the performance of ovariotomy.

The sixty-one cases of the accompanying table, with a mortality of eleven per cent., show that, while pregnancy does not improve the prognosis, it certainly does not make it worse.

Next to ovariotomy, tapping has always been more or less employed. Our first table will show that it is just about as dangerous and as free from danger as ovariotomy, with the disadvantage that it is not a radical operation. It is still further unsatisfactory in that it increases the danger of subsequent ovariotomy, and that there is greater danger of wounding neighboring organs. Artificial labor is now but little performed, for the reasons that it does not preclude the necessity of ovariotomy and that it diminishes the chances of the fœtus. Abortion and tapping do not preclude ovariotomy, but rather augment the necessity of its performance under unfavorable circumstances. If, then, in the complication of ovarian tumor with pregnancy, ovariotomy gives clearly better results than either the purely expectant treatment upon the one hand or tapping and abortion on the other, it is the most secure and best proceeding. But shall we do ovariotomy in all or only in isolated cases?

The answer to this question is the following: one must, in all cases in which ovarian tumor has been diagnosticated, do ovariotomy, because—

1. Ovariotomy is unavoidable, and the prognosis is not made worse by the existence of pregnancy.

2. The labor and convalescence with the tumor offers a far more unfavorable prognosis than without it.

3. Many tumors are malignant, although we cannot certainly so diagnose them; and it is difficult to say how far the spreading of the malignant element is favored by pregnancy and the resorption in convalescence.

The most favorable period for operation, as recognized by all operators, is during the first half of the pregnancy. In the last months, the increased hyperæmia and engorgement of the broad ligaments render it less favorable. Then, too, there is more probability of the convalescence being complicated by premature labor. The experience of a number of operators, as quoted in the table, shows that the operation can be performed in advanced stages of pregnancy with good results. The case of Pippingskoeld, in which it was performed during labor, is eminently encouraging.

My own experience (limited to one case) has led me to question whether, in the last stages of pregnancy, it would not be better to follow the excision of the ovarian tumor

by removal of the contents of the uterus through Cæsarean section.

The history of the case to which I allude is as follows. April 4, 1886, I was called in consultation with Dr. George Mays, to see Mrs. N., aged 24 years. She had been married less than a year, and had ceased to menstruate August 15, 1885. The menstrual function had become established during her thirteenth year, and, while regular, had always been scanty. For the past year she had had considerable distress and sense of weight in the pelvis, with occasional attacks of difficult micturition amounting, at times, to retention. The sensation of weight was greatly increased after marriage, but very naturally was attributed to pregnancy. At the date mentioned she believed herself in labor. She was complaining of severe pain, and the doctor informed me that upon digital examination he could not find the os. He had also unsuccessfully attempted to catheterize her. Inspecting the abdomen, the uterus was seen distending it as high as the ensiform cartilage; below, reaching nearly to the umbilicus, was a second spherical tumor which fluctuated and was evidently the distended bladder. By the vagina was felt a moderately elastic mass, filling up the curvature of the sacrum and reaching to the symphysis in front. I first supposed it a case of pregnancy in marked anteflexion of the uterus, in which we would find the os uteri situated high up; pushing the finger well up forward, I could reach the cervix just above and behind the symphysis. The os was undilated. The pressure of the cervix upon the neck of the bladder was the cause obstructing urination. By means of a male catheter nearly two quarts of urine were drawn off. The pelvis was filled up with a smooth round tumor which had pushed the bladder and uterus completely out of the pelvis. A rectal examination disclosed some projections from the cyst, showing that it was not a single cyst, although unmistakably of ovarian origin. Failing in the effort to push the tumor up while the patient was in the genu-pectoral posture, we were confronted by the necessity of relieving her of its presence to permit the expected delivery. She had now about reached the eighth month of pregnancy. Should we induce premature labor? This would not be possible unless the tumor was simultaneously reduced. Tapping was thought unwise, for the reason that the majority of these intra-pelvic ovarian growths are either dermoid or multilocular cysts, with very viscid contents. Our examination had shown the growth to be multilocular. The escape of its contents into the pelvic cavity would insure the development of peritonitis, and this would be still further aggravated by the bruising of the sac in the passage of the fœtus over it. Accordingly, it was thought better to do ovariotomy.

After thorough disinfection of the room, assisted by Drs. Mays, Warder, Eshleman, and West, the operation was performed, April 10, 1886. Beginning one inch below the umbilicus, an incision five inches long was made towards the symphysis. The left hand was passed between the left abdominal wall and uterus, behind and below the latter, until the cyst was reached. A small cyst projected above the pelvis and ruptured under the pressure of the hand. Dr. Mays introduced his hand into the vagina to facilitate the delivery of the larger cyst. It also ruptured under the pressure. The sac was raised up, and, having its origin on the right side, it was passed behind the uterus to the opposite side. Its pedicle was ligated with the Staffordshire knot, the tumor removed, the abdomen carefully cleansed, the wound closed with silk sutures. The wound was dressed with sublimated gauze and absorbent cotton. The operation was completed in forty minutes. The left ovary presented a cyst the size of an orange, but it was thought best not to remove it.

The night following the temperature was 102.2°, but soon subsided, not again reaching 102°, becoming normal on the fourth day. On the seventh day the sutures were removed and the dressing renewed. The central portion of the integument was ununited, the sutures having cut out. This was supported by adhesive plaster. A few hours later labor set in. This occurred during my absence. Dr. Mays, seeing serum oozing from the abdominal opening, applied the forceps and delivered a strong, healthy child. As the forceps were applied with the patient lying upon her back in the centre of the bed, the vulvar orifice was necessarily considerably lacerated. When I saw her about an hour after the labor, she was very much exhausted and had lost considerable blood. The second day following the temperature

began to rise, the lochia became offensive, the abdominal wound opened, and offensive serum was discharged. Intra-uterine injections were given, and the abdomen washed out with chlorinated soda and listerine, but despite all our measures the septic symptoms continued, and death occurred April 24, two weeks after the operation. It has since been a regret that while the abdomen was open I did not remove the contents of the uterus and close the uterine wound with sutures, after Sänger's method. I am encouraged to believe such a course would have been successful from those cases of Wells and Byford in which the uterus was injured during ovariotomy and emptied of its contents. In Byford's case the pregnancy had reached the eighth month. My patient showed no septic symptoms until after the delivery, and by the course suggested this source of origin would have been avoided.

Cases of Ovarian Tumor complicating Pregnancy Treated Expectantly.

No.	Reference.	Position of Tumor in Pelvis.	Left to Natural Powers.	Punctured.	Embryotomy.	Pushed above Brim.	Turning.	Forceps.	Rupture of Uterus.	Results. Mother.	Results. Child.	Remarks.
1	Hewlett, Med.-Chir. Tr., vol. vi.	Recto-vag pouch.	1	...	...	...	...	...	...	D.	D.	Tumor flattened by pressure; extensively adherent.
2	Merriman, Ibid., vol. iii.....	"	...	...	1	...	...	...	...	D.	D.	
3	Ibid., vol. x.....	"	...	1	1	...	...	...	...	R.	D.	Preceded by puncture.
4	" "	"	...	...	...	1	...	...	...	R.	?	
5	" "	"	...	...	1	...	...	...	...	R.	D.	
6	" "	"	...	1	1	...	...	...	...	D.	D.	Preceded by puncture.
7	Parks, Ibid., vol. ii.....	"	1	...	...	...	...	...	...	R.	A.	
8	" " "	"	...	1	...	...	...	...	...	R.	A.	Same patient as No. 7.
9	" " "	"	...	...	...	1	...	...	...	R.	A.	
10	" " "	"	...	1	...	...	...	...	...	R.	A.	
11	" " "	"	1	...	...	...	...	...	...	D.	.....	Ovarian origin somewhat doubtful.
12	" " "	"	...	...	1	...	...	...	...	D	D.	
13	Lever, Guy's Hosp. Rep., 1842....	Left side of pelv.	...	...	...	1	...	...	...	R.	A.	
14	" " " " ...	"	...	...	...	1	...	...	...	R.	A.	
15	" " " " ...	Recto-vag.pouch.	...	...	...	...	...	...	...	D.	D.	Cyst ruptured spontaneously.
16	" " " " ...	Left side of pelv.	1	...	...	...	...	...	...	R.	A.	
17	" " " " ...	Recto-vag.....	..	1	...	...	...	...	...	R.	A.	
18	Ingleby, Facts and Cases in Obst.	"	1	...	...	...	...	...	...	R.	?	
19	" " " "	"	1	...	...	...	...	...	...	D.	?	
20	" " " "	"	...	1	1	...	...	...	...	R.	D.	Embryotomy on account of child's death.
21	" " " "	"	...	1	...	...	...	...	...	R.	A.	
22	Denman, vol. ii. p. 102.....	"	...	...	1	...	...	...	...	D.	D.	
23	" " " "	"	...	1	...	...	...	...	...	R.	A.	
24	Jackson, Lond. Med. Rep., vol. ii.	"	...	1	...	...	...	...	...	R.	D.	
25	Behrend.....	?	...	...	1	...	...	...	...	R.	A.	
26	Beclard, Bulletin Lond., No. ...	?	...	1	...	...	...	...	...	D.	D.	Puncture followed by version.
27	Meissner, Dict. de Méd. et Chir....	?	...	...	...	...	...	...	...	R.	?	Cyst ruptured spontaneously.
28	" " " "	?	1	...	...	...	...	...	...	D.	D.	Arm - presentation; spontaneous evolution.
29	Herbineaux, Sur les Accouch. Lab.	.....	1	...	...	...	...	...	...	R.	?	
30	Baudelocque, Traité de l'Accouch.	Recto-vag pouch.	...	...	...	1	...	...	...	D	?	
31	Moreau, Nouveau J. de Méd., 1820	Right side.....	...	...	...	...	1	...	...	R.	A.	
32	Steir (Puchelt).....	"	...	...	1	1	...	...	...	R.	D.	Perforation only on account of child's death.
33	Davis, Op. Midwif...	Recto-vag.....	1	...	...	...	...	...	...	R.	A.	
34	" " "	"	...	...	...	...	1	...	...	D.	D.	
35	Huper, Grafe, and Walter, Jour. de Chir.....	Right side.....	...	...	...	...	1	...	...	D.	D.	Cases 35 to 40, inclusive, were of malignant disease.
36	Shuzer (Puchelt).....	Left side.....	...	...	1	...	...	...	...	R.	D.	
37	J. G. Baker, Rev. Med., vol. vii...	?	1	...	...	...	...	...	...	D.	A.	
38	La Chapelle.....	?	...	...	...	...	1	...	...	D.	D.	
39	Greenhalgh, Guy's H. Rep., vol. i.	Posteriorly and laterally.....	1	...	...	...	...	...	...	D.	D.	
40	" " " "	Recto-vag. attached to bones.	...	...	...	...	...	...	...	D.	D.	Spontaneous premature labor. Cæsarean section.
41	" " " "	Recto-vag.....	...	...	...	...	...	...	...	R.	A.	Premature labor induced.
42	" " " "	"	1	...	...	..	1	...	...	R.	A.	" " spontaneous.
43	La Chapelle.....	"	...	...	...	...	...	...	...	D.	D.	
44	Perfect, vol. ii. p. 341.....	"	...	1	...	...	...	...	...	R.	D.	
45	Lees, Clinical Midwif., Case 46....	"	...	...	...	...	...	...	1	D.	D.	
46	" " " " 49....	"	...	...	1	...	...	..	...	D.	D.	

Cases of Ovarian Tumor complicating Pregnancy Treated Expectantly.—Continued.

No.	Reference.	Position of Tumor in Pelvis.	Left to Natural Powers.	Punctured.	Embryotomy.	Pushed above Brim.	Turning.	Forceps.	Rupture of Uterus.	Results. Mother.	Results. Child.	Remarks.
47	Lees, Clinical Midwif., Case 48 ...	Recto-vag.....	...	...	1	...	...	...	...	R.	D.	} Nature of case doubtful.
48	" " " " "	"	...	...	1	...	...	...	...	D.	D.	
49	Ward, Path Trans., vol. vi.....	?	...	...	...	...	...	...	1	D.	D.	
50	Mr. Wroman, Lanc., vol. ii., 1849.	Recto-vag.....	...	1	...	...	...	...	...	R.	A.	
51	Headland, Lancet, 1846.....	"	...	...	...	...	..	1	...	D.	A.	
52	Ramsbotham, Obst. Med., p. 216.	?	...	...	1	1	...	...	...	R.	D.	Perforation; after child's death tumor had disappeared.
53	Ashwell, Guy's Hosp. Rep., No. 2.	?	...	...	...	...	...	...	...	?	?	Spontaneous rupture.
54	Langley, Lond. M and S. Jour....	Right side.....	...	...	...	...	...	...	...	R.	A.	" "
55	Playfair.....	Recto-vag.....	...	...	1	...	...	...	...	D.	D.	
56	Benny, Obst. Trans.....	?	...	1	...	...	...	...	...	R.	A.	
57	" "	....	...	...	...	...	...	1	...	R.	D.	Laceration of vagina; tumor passed through and removed by ligature.
58	Abdom. Tumors, Sp. Wells.....	Right side.....	1	...	...	...	...	...	...	D.	D.	Died four days after peritonitis from cyst-rupture; one child born during life of tumor.
59	" "	"	...	...	...	...	...	...	...	D.	D.	Premature labor spontaneous at sixth month; week later, after great pain, cyst ruptured; death immediate.
60	" "	Two tumors.....	...	...	...	...	...	...	...	D.	D.	Death from rupture of cyst; undelivered.
61 62	" "	?	2	...	...	...	...	...	...	2 R.	2 D.	Ovariotomy a few weeks after labor; one died, other recovered
63	" "	Above.....	...	1	...	...	...	...	...	R.	A.	Subsequent successful ovariotomy.
64 65 66 67	" "	?	...	4	...	...	...	...	...	4 R.	4 A.	One tapped three times, one twice, two once.
68	Obs. Tr. Lond., vol. xi. p. 266.....	?	...	...	...	...	1	...	...	R.	A.	Successful ovariotomy later.
69	Fischel.....	Recto-vag.....	...	...	...	1	...	..	...	R.	?	
70	Crawford, Med. Rec., 80, xviii. p. 473.....	?	...	1	...	...	...	...	...	R.	?	At a subsequent tapping pus was found; ovariotomy; recovery.
71	Wiart, Arch. de Tocol., 82, ix. 428.	Recto-vag.....	...	1	...	...	...	1	...	R.	?	Dermoid right ovary; subsequent enlargement, peritonitis, discharge of tumor and contents per rectum; recovery.
72	Warn, Obs. Tr., vol. xi., p. 198....	?	...	...	...	...	1	..	...	D.	?	Rupture of cyst.
73	Grigg, Br. Gy. J., 86-7, p. 264.....	Recto-vag.....	...	...	...	1	...	...	...	D.	?	Died following day.
74	" " " "	Left side.....	...	...	...	...	...	1	...	D.		Multilocular, suppurating, ovarian cyst.
75	" " " "	Recto-vag.....	...	..	...	...	...	..	...	D.		

Braxton Hicks —Six cases left to nature; all did well.
Barnes saw death in one case from cyst-rupture at seventh month; in another peritonitis caused death.
Rogers saw five cases: one tapped before delivery, mother and child lived; a second went to full term, mother and child did well; three premature labors, all mothers lived.
Chadwick.—Three cases, non-interference; all recovered.
Battey.—Four cases, non-interference; three died from cyst-rupture; one died from abortion.
Sutton.—Two cases in which death followed abortion from twisted pedicles.

Table of Cases in which Ovariotomy was Performed during Pregnancy.

No.	Reference.	Operator.	Months Pregnant.	Result.	Remarks.
1	Zeits. f. Geb. u. Gynäk., 1880, p. 383.	Schroeder.	7	R.	Delivered at full term.
2	"	"	4	"	Previously tapped; aborted thirteenth day.
3	"	"	3	"	Delivered at full term.
4	"	"	7	"	Premature delivery on fifth day.
5	"	"	3	"	Delivery at full term.
6	"	"	3	"	Normal delivery at full term.
7	"	"	4	"	Aborted in seventh week, followed by septic infection.

Table of Cases in which Ovariotomy was Performed during Pregnancy.—Continued.

No.	Reference.	Operator.	Months Pregnant.	Result.	Remarks.
*8	Abdominal tumor.	Spencer Wells.	4	R.	Delivered of a living child at full term.
9	"	"	3	"	" " " " "
10	"	"	3	"	" " " " "
11	"	"	4	"	" at sixth month.
12	"	"	7	"	" next morning after operation.
13	"	"	5	D.	Previous rupture of cyst; peritonitis and moribund when operation done; delivery nine hours later; death fifth day.
14	"	"	4	R.	Delivered at full term.
15	"	"	7	"	Child born twenty-five days later.
16	"	"	4	"	" at full term.
17	"	"	3	"	Abortion six days later.
†18	"	"	4½	"	Uterus opened by mistake; contents removed.
19	Austral. Med. Gazette, 1883–4, iii. p. 169.	Fortescue.	4	"	Accidental puncture of uterus; Porro's operation.
20	Berl. K. Wochenschrift, 1876, p. 172.	W. Baum.	4½	"	Aborted two days later.
21	Am. Journ. Obstetrics, 1886, xix. p. 1272.	Mundé.	5	"	Uninterrupted pregnancy.
22	Ib., p. 525.	Thornton.	3	"	Both ovaries removed; delivered eighth month; healthy child.
23	Canada Lancet, 1886–7, xix. p. 161.	Gardner.	3	"	Delivered at full term; living child.
24	Centralbl. f. Gynäk., 1887, xi. p. 139.	Barony.	6	"	" twenty-one days later.
25	Medical Record, 1882, xxi. p. 22.	Bennett.	3	"	Abortion ten days later.
26	London Lancet, 1885, ii. p. 985.	Stony.	3	"	Delivery at full term.
27	Am. Journ Obstetrics, 1888, xiii. p. 304.	Peppinskoeld.	8½	"	" seven hours after.
28	Trans. Am. Gyn. Soc., 1880, v. lxxxi. p. 100.	Wilson.	4	"	Continuation of pregnancy.
29	"	J. M. Sims.	4	"	Delivery at full term.
30	"	W. L. Atlee.	2	"	Died a month later from exhaustion.
31	"	"	?	"	Went to full term.
32	"	F. Bird.	?	"	Abortion two days later.
33	"	Gabahin.	6	"	Delivered at full term.
34	"	L. Tait.	7	D.	Labor sixth day after, and death in a few hours.
35	"	W. Baum.	6	"	Miscarriage day following; peritonitis resulted.
36	"	T. G. Thomas.	?	"	
37	"	J. G. Kimball.	3	"	Peritonitis.
38	"	"	3	"	"
39	Am. Journ. Obstetrics, 1879, xiii. p. 31.	W. H. Byford.	7	R.	Pregnancy unsuspected; uterus punctured; contents removed.
40	Austral. Med. Gazette, February, 1875.	Thomas Hillas.	8	"	Uterus accidentally wounded; opened; contents removed; living child.
41	Unpublished.	Montgomery.	7½	D.	Premature labor seventh day, followed by septicæmia; death thirteenth day.
42	Stratz Zeitschr. f. Geb. u. Gynäk., 1887.	Schroeder.	4	R.	At full term; convalescence normal; child living.
43	"	"	3	"	" twins; child living.
44	"	"	8	"	" forceps delivery; child living.
45	"	"	3	"	" child living.
46	"	"	3	"	" "
47	"	"	6	"	" "
48	"	"	6	"	" "
49	Unpublished private letter.	E. Y. Beall (Texas).	3	"	Operation May 12, 1887; course of gestation undisturbed.

* Winckel (Parvin's edition) operated twice; both recovered; no miscarriage.
† Tait (Disease of the Ovaries, fourth edition, p. 293) reports ten additional cases; all recovered.

REPORT ON RECENT STUDIES ON DISEASES OF THE CIRCULATORY APPARATUS.

BY J. P. CROZER GRIFFITH, M.D.

(Continued from page 666.)

THE PULSE—Continued.

II. VARIATIONS OF TENSION.

LOW Tension.—Tension depends primarily on the resistance in the arterioles and capillaries. This resistance may be so slight that venous pulsation may be produced (differing in origin from that seen in aortic disease). The characteristic low-tension pulse is abrupt and short, and the artery is flattened completely between the beats. It may be dicrotic, undulatory, strong or weak, large or small. Pyrexia almost constantly relaxes the capillaries; hence there is low tension in fever. In the absence of fever, a pulse of low tension, unless it be a physiological peculiar-

ity, indicates cardiac weakness (not fatty heart, in which the pulse is usually slow). The symptoms are not characteristic. In this condition purgatives give rise to depression.

High Tension.—High tension of nervous origin, as in hysteria, cerebral and spinal diseases, rigors, and the cold stage of fever, is probably due to a spasm of the arterioles; while in that of blood-origin, as in renal diseases and allied conditions, the trouble rests chiefly with the capillaries. This conclusion is based on various grounds, which the author explains. The characteristic high-tension pulse is the *pulsus tardus*, slow and long. It may be either small or large. If the heart is weak, the artery will be *compressible* and yet *cord-like.* To this condition Broadbent applies the term "virtual tension." In it the access and subsidence of the pulse seem to be sudden and the pressure to last a certain time between them. Virtual tension is met with at the onset and at the close of renal disease, and is the characteristic pulse of dilatation of the heart. The causes of high tension are: (1) Heredity. (2) Kidney-diseases of all kinds except suppuration. (3) Gout and allied disorders, including affections attributed by Murchison to functional derangement of the liver. (4) Lead-poisoning, with or without renal disease. (5) Anæmia. In this it is certain that the tension is usually high. Cases of anæmia with very low tension are rare. The causes of the difference are not known. (6) Pregnancy. (7) Constipation. (8) Plethora. (9) Chronic bronchitis and emphysema.

The effects of high tension are hypertrophy or dilatation of the heart. Some contributory exciting cause usually co-operates to produce dilatation. Valvular changes, dilatation of the aorta, and cerebral hemorrhage are all results of high arterial tension. This tension is often overlooked in valvular disease, and cannot but throw still greater strain on the affected valve. It may be best detected in aortic insufficiency by feeling the pulse when the hand is well below the level of the shoulder, but not hanging down; and in mitral disease by trying it with the hand in different positions. Cases of kidney-disease (especially large white kidney) may occur without any tension whatever, there being less than the normal resistance in the arteries and capillaries. The prognosis in such cases is most unfavorable. Indeed, in acute albuminuria a favorable prognosis depends on the rapidity with which high arterial tension develops. In contracted kidney high tension is very rarely absent.

Functional Effects.—High tension may produce the most severe angina pectoris, or sudden dyspnœa, as though there were advanced heart-disease. Intermittent albuminuria is often due to it, combined in children with a strongly neurotic family history.

Treatment.—This is often not needed. Bleeding is a powerful means to reduce tension, and is usually used only in extreme cases. It is useless after cerebral hemorrhage has occurred, but might save hundreds of lives if employed to reduce tension as a preventive measure. Tension can also be lowered by reducing the force of the heart or the peripheral resistance. The latter is the proper method, and may be accomplished either by relaxing the arterioles by nitro-glycerin or the nitrites, or, better, by eliminating from the blood, by diuretics, diaphoretics, or purgatives, the nitrogenized waste which, by its irritation, provokes the obstruction in the artero-capillary circulation.

THE PULSE IN HEART-DISEASE.

Aortic Stenosis.—The pulse in this affection is gradual and long, owing to the obstruction to the rapid flow of blood. It is small, full between the beats, and destitute of impact. When typical, it is one of the most peculiar pulses met with.

Aortic Regurgitation.—This pulse is too well known to require description. The author calls particular attention to the element of size, to the falling away of the blood-column when the arm is held up, and to the great increase of the collapsing character under the influence of pyrexia. The slightest departure from regularity is ominous.

Mitral Regurgitation.—This pulse often presents great irregularity, but this does not always indicate a dangerous failure of compensation.

Mitral Stenosis.—The pulse is regular, small, and full between the beats. When the heart fails, irregularity appears at the wrist, while the heart-beats are still regular in time. Finally, the irregularity of the pulse and its lack of correspondence with the irregular heart defy description.

The pulse of *hypertrophy* is that of its cause, and that of *dilatation* has been already described.

III. THE PULSE AND CEREBRAL AFFECTIONS.

Broadbent considers under this head only the effect produced on the brain by abnormal conditions of the circulation, omitting the converse of this.

Sleeplessness is due to many causes, and among others to the disturbed condition of the circulation. The first of these is high tension, virtual or actual. The immediate cause here probably is the inability of the tired arterioles of the cortex to shut off the pressure and produce the requisite anæmia. A mild mercurial aperient is the most efficient hypnotic, and sleep is obtained in an hour or two after its administration. Hot bathing, general or local, and a variety of other measures are also useful.

The second condition is an extremely low tension. This is a common cause in men of middle life and sedentary occupation. The patient has often an irresistible desire to sleep during the day, but cannot rest at night. He can sleep while sitting, but not when in the recumbent position. The pulse is variable, the heart weak, the arterioles relaxed, and hence while sitting the brain is anæmic, but while lying the vessels are overdistended. A tonic plan of treatment, with change of air, is indicated.

Convulsions and the Pulse.—Convulsions may attend exactly opposite states of the circulation. Death in convulsions may occur in rapid hemorrhage and in asphyxia, *i.e.*, from excessively low or unduly high arterial tension, tubercular meningitis, by the pressure of the effusion obstructing the circulation. Even slight causes may produce temporary arrest of the circulation. The author narrates two cases in adults where unconsciousness was repeatedly produced by paroxysms of coughing; and another in which convulsions appeared to be due to the increased intra-cranial pressure resulting from a thickening of the frontal bone. He follows this with a series of cases in which high arterial tension produced convulsions, and the patients were relieved by a reduction of the tension by therapeutic means. Uræmic convulsions are probably due as much to the high tension as to the poisonous matter. There is no doubt, at any rate, that blood-letting has often a remarkable effect in cutting them short.

Low arterial tension is much less commonly associated with convulsions. The author reports several cases, in one of which convulsions were brought on by every attempt of the patient to sit up.

It may be that a careful study of the pulse may throw some light on the forms of epilepsy and their treatment. Broadbent has been led by his experience to conclude that in essential epilepsy the arterial tension is low and variable or fluctuating. During pregnancy the fits often cease; and it is one of the effects of this condition that the arterial tension is increased. Epilepsy associated with high arterial tension usually comes on later in life, and is more amenable to treatment.

Violent maniacal delirium may be dependent on high tension of the pulse. The author has seen several instances of this.

Pulse and Melancholia.—The connection between melancholia and its allied mental states on the one hand, and the condition of the circulation on the other, is more direct and decided than can be traced in epilepsy. Senile melancholia is probably due to functional disturbance from an impeded circulation. Again, a family tendency to melancholia may be due to hereditary high tension of the pulse, and complete recovery in such cases shows that there has been no structural change. Protracted arterial tension may be, if not the cause, at least the index of the condition on which the mental state depends. It is probable, as the capillaries thicken as a result of high tension which has lasted for years, and the heart ceases to gain in strength, that the brain no longer receives a proper supply of healthy blood. At any rate, it is true that in a large proportion of cases of melancholia developing late in life, high arterial tension has been present. The author has obtained the best therapeutic results in such cases by endeavoring to strengthen the heart and to relieve the obstruction in the capillary system. The more acute the attack, the better the prospects of recovery.

Melancholia associated with extremely low tension usually proves incurable. The author reports the only case which he has ever seen recover.

As associated with the cerebral affection he says that, in the slowly developing par-

aplegia due to failing circulation, the lumbar enlargement of the cord does not receive sufficient blood, owing to the anatomical arrangement of the blood-supply. The symptoms are first noticed only after a night's rest, and pass away as the day goes on. He has seen this condition develop when the circulation was made sluggish either by very low tension or by high tension with an overtaxed heart.

THE RECOGNITION OF DILATATION OF THE RIGHT AURICLE.

Schrötter (*Medizinische Jahrbücher*, 1887, H. 1, 51) places this condition among the diseases of the thoracic viscera whose diagnosis is attended with great difficulty, and reports a most interesting case. The patient, a girl of 24 years, suffered with cyanosis, palpitation, dyspnœa, ascites, and œdema. The dilated cervical veins were distinctly and constantly pulsating. The apex-beat could be faintly felt in the sixth interspace outside the nipple-line. The cardiac percussion-dulness was normal on the left side, but stretched also to the right of the sternum, and was of a very peculiar shape. On this side good pulmonary resonance extended downward in the nipple-line to the sixth rib; one and one-half centimetres inside this it reached to the fourth rib; one and one-half centimetres still nearer the sternum it only touched the lower edge of the third, and close to the right sternal edge it reached the middle of the fourth rib. This area of dulness was more prominent than the corresponding region on the left side. The pulmonary second sound was accentuated. A double murmur was heard at the apex, and, with less strength, over the right ventricle. The pulse was weak and small. A few râles were heard in the lungs, especially on the right side below and behind. The liver was enlarged, and the spleen slightly so.

A diagnosis was made of insufficiency and stenosis of the mitral valve, together with insufficiency of the tricuspid. But the peculiar form of the percussion-dulness remained still to be explained. It was evidently not a simple enlargement of the heart in all directions, and the shape of the dulness contra-indicated pericardial effusion. The presence of aneurism of the aorta or of a mediastinal tumor was not supported by other symptoms. The diagnosis then lay between an encysted pleurisy, a pericardial effusion limited by adhesions to the right side of the heart, and a hugely dilated right ventricle. The presence of valvular disease indicated the last of these, but the fact that the area of dulness was not diminished during inspiration seemed to point to the first. The diagnosis of dilatation of the right ventricle was finally established by means of the hypodermic syringe. The needle was inserted and found to make swinging movements in time with the heart's action, and pure blood was obtained. No evil result followed, but the patient died some weeks afterwards. The autopsy confirmed the diagnosis throughout. There was found in addition a stenosis of the tricuspid valve and a retraction and contraction of the right lung, which was adherent to the pleura. This condition allowed the right ventricle to approach so closely to the chest-wall.

ON THE PATHOLOGICAL INDICATIONS OF VENOUS MURMURS IN ANÆMIC CONDITIONS.

In *Virchow's Archiv*, B. cvii. H. 3, 419, there appears an article on this subject by Apetz, who says that up to the elaborate work of Weil in 1875 very various opinions had been held regarding the significance of the venous hum in the jugulars. This author proved, as the result of observations on six hundred persons, that the phenomenon had no connection with any particular form of disease. Many later authors have not accepted this view. Gerhardt believes anæmia has a decided influence on the production of venous murmurs, and Guttmann, who has sought it in hundreds of cases, finds it far more frequently in anæmic persons. Induced by the variance of opinions, Apetz has auscultated the internal jugular veins of six hundred and sixty persons, including one hundred and fifteen markedly anæmic individuals. After a careful study of the relation of age and of the degree of anæmia to the presence of the venous murmur, he concludes that—

1. The occurrence of a murmur in the internal jugular is chiefly dependent upon age: the older the person, the less frequently is the murmur found.

2. Venous murmurs which become audible only on turning the head to the opposite side are physiological, and have no connection with anæmia.

3. Those heard when the head is straight

and the patient in the upright position, and from twenty to sixty years of age, have a certain pathological significance if they are loud and constantly present. Yet they are usually not sufficiently pronounced to be of value in the diagnosis of anæmia.

4. In general, venous murmurs possess no diagnostic value for chlorosis or other anæmic conditions.

OVERDISTENTION OF THE RIGHT VENTRICLE TREATED BY LEECHES.

F. C. Shattuck (*Boston Medical and Surgical Journal*, 1887, No. 17, 395) says the tendency of any block to the circulation is to produce an overdistention of the venous system. If the obstruction is in the arteries, the heart may be strong enough to overcome it; but when the left ventricle gives out, or when the trouble is at the mitral valve, the strain is thrown upon the right ventricle, which thereupon so often becomes incompetent. We then find all the symptoms of general, intense passive congestion developing. Our effort in such cases must be to relieve the engorgement by increasing the heart's power. Often this is impossible without an actual removal of fluid. Catharsis may then be employed, but is very exhausting; and, moreover, it frequently cannot be induced. The author advises in many grave cases the direct abstraction of blood, preferably by leeches followed by poulticing, since the removal of eight to ten ounces will often give surprising relief, and will afford the overburdened heart a chance to regain its power. He reports six cases, in five of which an amelioration of the threatening symptoms promptly followed the leeching. In the remaining case probably not enough blood was taken. He does not believe that two of his cases would have lived more than a few days if he had not drawn blood.

TRANSLATIONS.

GLUCOSE, GLYCOGEN, AND GLYCOGENY.—At a recent meeting of the Academy of Sciences, M. Chauveau presented a note entitled "Glucose, Glycogen, and Glycogeny in Relation to the Production of Heat and of Mechanical Labor in the Animal Economy." M. Chauveau believes himself to be in a position to affirm the preponderating part played by the glucose of the blood in organic combustion, which is the source of heat and of muscular action. The liver is, in truth, as Claude Bernard affirmed, a focus of incessant production of sugar, and by the side of the focus there exists another for its destruction which is quite as active. But the latter is not in the lungs; it is everywhere in the body, having its seat in the capillaries of the general circulation. The author bases his conclusions on the following results of his own experiments:

1. In fasting animals sugar exists in the blood of the arteries and veins of the circulatory system; but in the upper hepatic vessels the blood is richer in sugar than anywhere else, even when it has been obtained without arrest of the circulation, thus avoiding the causes of error arising from the stagnation of the blood in the liver: this organ then is really a sugar-producer.

2. This relative richness of glucose in the blood is observed in the upper hepatic veins not only in fasting animals, but also in animals that have been submitted to a prolonged fast, continued almost to the verge of inanition, when the sugar derived from the former nutriment and provisionally stored in the liver in the form of glycogen has long since been exhausted. From which it must be inferred that the liver may generate sugar spontaneously, and is thus a focus of active production.

3. The blood of the left heart contains as much sugar as that of the right heart, which is an evident demonstration of the non-destruction of the sugar during the passage of the blood through the lungs in the vessels of the lesser circulation.

4. In the vessels of the general circulation the venous blood contains less sugar than the arterial blood, which shows that the capillaries of the general circulation are really a focus for the destruction of sugar.

The author terminates with the following observation: In comparing the blood of organs whose heat-producing activity in the physiological state is very unequal, it is always observed that the incessant destruction of glucose is much more active in that organ where organic combustion is greatest; in other words, the quantity of heat produced in the animal tissues, which is always proportional to the intensity of the combustion, is likewise proportional to the absorption of the glucose of the blood in the capillary system.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 23, 1887.

EDITORIAL.

MALARIA, AND AMERICAN SCIENTIFIC OBSERVATION.

IN his voluminous work on General Pathology, just issued from the press, Professor Klebs argues in a despairing sort of way in favor of the pathogenic importance of the bacillus malariæ discovered by himself and Tommasi-Crudeli in 1879. No notice is taken of the critical investigations of Sternberg in 1880, or of the more recent observations of Councilman and Abbott in 1884, and of Sternberg, Councilman, and Osler in 1886, which seem to negative the "discovery" of Klebs. Marchiafava and Celli, who described the plasmodium malariæ in 1883, and Laveran, who discovered the flagellate organisms (oscillaria malariæ), which he regards as the cause of malarial fevers, receive scant courtesy at his hands. Klebs does not only doubt the pathogenic nature of the plasmodium of Marchiafava and Celli, but even raises a question whether it is an organism at all. He intimates that "the apparent contractions" of these bodies may be due to contractions of the red contents of the blood-corpuscles. In view of the extensive observations of Councilman and Osler upon malarial blood, this opinion of the Zurich pathologist savors somewhat of undue arrogance. Regarding the development of the organism which is the cause of malarial fevers,—of course the bacillus malariæ,—Klebs believes that this takes place only in soil of medium moisture in which there is vegetable decomposition. Saturation, as well as complete drying out of the soil, prevents the development of the malarial organism. He denies that malaria is transmitted in drinking-water, contradicting in this assertion the experience and observation of Dr. Charles Smart, of the United States Army, of whom Professor Klebs appears likewise never to have heard. In fact, throughout his book, which is devoted entirely to the causes of disease, American investigators and observers are deliberately ignored. Whether this is due to ignorance of their work or to an arrogant assumption that it is worthless, the omission of all reference to it is discreditable to the Zurich professor. In the chapters on yellow fever, typhoid fever, diphtheria, and pneumonia, the same systematic suppression of the names of American scientists is practised. The names of Flint, Jacobi, Sternberg, Wood, Woodward, and many others who have contributed so much to the general fund of knowledge upon the etiology of infectious diseases, are conspicuous by their absence.

We are sure that no American author of standing would be guilty of such a lack of scientific courtesy as Professor Klebs has manifested in the pages of his work. American bacteriologists have for some years labored honestly and to good purpose in the field of pathology. If Professor Klebs is ignorant of the work done here, he is hardly competent to act as a safe guide to the modern student. If, on the other hand, he is familiar with American pathological research, his omission of all reference to it is worse than a confession of ignorance. His choice lies between the two horns of this dilemma.

HOT WEATHER HYGIENE.

A GREAT increase in the death-rate of our large cities has been noticed during the recent spell of hot weather. A temperature of a hundred degrees in the shade means a corresponding rise in the death-rate. Besides the mortality directly attributable to heat-stroke, the lethal influence of the excessive temperature is

shown by the number of deaths among individuals of feeble vitality, both young and old. Everything in life is relative, and a day that would be considered only moderately warm in the tropics is intolerable in Philadelphia or New York. Although we do not experience a temperature in this latitude of, say one hundred and twenty degrees in the shade, yet our habits of life make the even hundred quite as fatal in its effects. During the heated term it would be well to borrow the results of experience of travellers in hot countries. Parkes has demonstrated that soldiers can march better without a spirit ration than with; and Stanley considers it fatal even to use light malt-liquors or wines in equatorial Africa. The clothing should be adapted to the weather, light flannel being the most comfortable and wholesome. Exercise should be restricted, and work suspended during the middle of the day. Alcoholic drinks being excluded, ice-water and cold drinks may be sipped, but not drunk in excess. Large quantities of cold drinks not only cause gastric catarrh, and consequently impaired digestion, but also may cause death from shock. Such a case occurred in this city recently from drinking ice-water while overheated. A tropical diet of rice and fruits would be a good substitute for our usual heavier food, especially in the dietary of children. Crowd-poison seems to be especially developed in cities during hot weather, and hence the exodus to sea-shore and mountain has in its support both physic and fashion. The ancient temples of Æsculapius were always placed in the most salubrious localities, near healing springs, and not without reason:

"The murmur of a waterfall
A mile away,
The rustle when a robin lights
Upon a spray,
The lapping of a lowland stream
On dipping boughs,
The sounds of grazing from a herd
Of gentle cows,
The echo from a wooded hill
Of cuckoo's call,
The quiver through the meadow grass
At evening fall,—
Too subtle are these harmonies,
For pen or rule.
Such music is not understood
By any school;
But when the brain is overwrought,
It hath a spell,
Beyond all human skill and power,
To make it well."

MEDICAL SOCIETIES.

THE ability to take a prolonged summer vacation is not enjoyed by the mass of the profession, and is restricted to a select circle largely composed of those physicians whose peculiar and lucrative specialty enables them to devote a few months each year to "leading the fashion in the upper Engadine." Nevertheless, the advice of Sir Henry Holland is not unheeded. The proverb older than Æsop with regard to the bow that is always bent has its truth generally admitted, but, unfortunately, those who are most useful to their fellow-men find that their services are so constantly in demand that an opportunity even to temporarily lay aside their duties rarely appears. The meetings of the various medical societies, with their attractive social features, afford an illustration of the correspondence of duty and inclination which is hard to resist. Even a week's holiday spent in attending the annual session of the American Medical Association gives rest and recreation and fresh inspiration for the daily round of work. But a man who belongs to a number of societies may find himself so embarrassed with the riches that are offered him that he either cannot make up his mind which to attend, and so remains at home, or he may, in attempting to attend all, find his time so restricted as practically to deprive him of the real benefit of any. This is one of the evil results of the undue multiplication of societies.

COMMUNICATIONS FOR THE CONGRESS.

AMONG the meetings of the year the most noteworthy will be that of the International Medical Congress in Washington next September. To this every regular physician is entitled to come and enroll himself as a member and participate in all the proceedings. Such an opportunity to meet men whose reputation is world wide, and to listen to their voices, will surely be embraced by large numbers of the profession. As the programme will soon be completed for the Congress, all who expect to read papers should send a synopsis of their communications to the secretary of the appropriate Section without delay, or they may find themselves too late, especially since nearly every one who attends from abroad will probably bring a paper with him.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE JUBILEE CELEBRATION—JUBILEE HONORS FOR THE MEDICAL PROFESSION—RECENT RESEARCHES INTO THE ETIOLOGY OF SCARLET FEVER—THE EPIDEMIC OF RABIES—THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN DUBLIN—THE HEALTH OF THE CROWN PRINCE—SIEGESBECKIA IN TINEA—HOSPITAL SUNDAY.

THE celebration of the Jubilee of the Queen's reign has filled everybody's mind during the last fortnight, and nobody who saw London on June 21 will ever forget the spectacle then presented. It was less the procession itself, remarkable though that was, than the crowds which thronged the route which gave the occasion its peculiar and memorable character. The excellent behavior of the people is shown by the very small number of casualties. At a low estimate there must have been over a million people in the streets, yet not half a dozen people were seriously injured. One man, kicked in the chest by a trooper's horse, died in a few minutes, and it was found at the post-mortem examination that the manubrium sterni had been fractured, the pericardium torn, and the left ventricle ruptured at a point corresponding to the fracture in the sternum; another man fell off a coping and sustained a fracture of the base of the skull, from which he shortly died; another man suffered fracture of the femur, and seventeen persons had heat-stroke. The Volunteer Medical Staff Corps was out, under Surgeon-Major Norton, and assisted Mr. Mackellar, chief surgeon of the police, in manning the thirteen ambulance-stations established along the line of route. The assistance given was prompt and effective, but most of the patients were suffering with slight syncope or hysteria. At one ambulance-station a man who became faint was given a dose of brandy and allowed to sit in the ambulance-wagon. In a few minutes a regular epidemic of syncope set in, and the surgeons in charge had to make the differential diagnosis between syncope and malingering in a whole series of individuals whose envy had been excited by the sight of the dose of brandy and the shady and elevated seat.

The "Gazette" issued on Jubilee-Day was not a very interesting document to any class in the community. The medical profession came off no worse than others. Dr. Garrod, whose writings on gout have made his name familiar, received a knighthood; so did Professor MacLeod, the eminent Glasgow surgeon, and Dr. Aitken, long Professor at the Army Medical School at Netley, and author of a "Systematic Practice of Medicine" once very widely used in this country. Mr. John Simon, who, when he retired from the direction of the medical department of the sanitary service of the country, was made a C.B., now becomes Sir John Simon, K.C.B., and Dr. Arthur Mitchell, a Commissioner in Lunacy in Scotland, also receives the K.C.B. Dr. Ker Innes, of the medical staff of the army, Dr. William Mackenzie, of the Indian Medical Service, and Dr. James Jenkins, of the Royal Navy, are the recipients of the same distinction. Dr. J. A. Grant, of Ottawa, Canada, becomes a Knight-Commander of the Order of St. Michael and St. George (K.C.M.G.). These are all the important distinctions conferred. No peer, no Privy Councillor, not even a baronet!

In previous letters reference has been made to the researches conducted by Mr. W. H. Power and Dr. Klein, for the Local Government Board, into the supposed connection between scarlet fever and milk. Mr. Power traced an epidemic of scarlet fever to the milk obtained from a particular dairy near Hendon. The cows were found to have been suffering with a disease the local lesion of which was a vesicular eruption on the udders, ending in ulceration. Dr. Klein found that the disease could be produced in calves by inoculation of the discharges; he found a streptococcus in the discharges of the ulcers, and the same organism in the blood of cows suffering with the disease; inoculation with pure cultivations of the streptococcus pro-

duced a disease in calves which, in Dr. Klein's opinion, resembled human scarlet fever. The same streptococcus was found in the blood of human beings suffering with scarlet fever. As has been observed in a previous letter, the proof that the streptococcus is the virus of the vesicular disorder of cows appears to be pretty conclusive. The conclusion that it is also the virus of scarlet fever rests upon the three following observations: (1) the coincidence of the epizoötic in the dairy cows with the epidemic of scarlet fever; (2) the resemblance between the pathological appearances produced in the kidneys and skin (?) in calves by inoculation with the virus of the epizoötic to the lesions of scarlet fever; and (3) the discovery of the same organism in the blood of the calves and of persons suffering with scarlet fever. It ought to be added that Dr. Klein found the same streptococcus in some tinned milk to the use of which an epidemic of scarlet fever had been traced by Dr. Klein. Objections to Dr. Klein's theory must follow one of two lines: (1) It may be contended that the epidemic had nothing to do with the state of health of the dairy cows, but is to be attributed to contamination of the milk from some unrecognized local source; or (2) it may be held that the epidemic was due to some epizoötic disease of the cow, but not to the particular vesicular disease identified by Dr. Klein. The first objection is that maintained by the veterinary authorities, headed by Professors Brown and Axe, who say that the vesicular disease of the udders is well known to veterinary surgeons and extremely common in dairy-farms, whereas scarlet fever has never before been traced to the milk-supply. Professor Axe believes that he has ascertained that the cows which introduced the disease into the Hendon dairy came from a dairy from which a number of other cows were sold to go to dairy-farms in other parts of the country without any corresponding outbreaks of scarlet fever following in those localities. The second objection has been raised by a research conducted by Mr. Edington for Professor Chiene and Dr. Jamieson, of Edinburgh. This research, which was published in the *British Medical Journal*, was undertaken with the view of testing the specific infectivity of the desquamation of scarlet fever. Two organisms especially attracted attention: one was a diplococcus (to which the name *diplococcus scarlatinæ sanguinis* was provisionally applied); it was found in forty-five per cent. of the tubes inoculated from the desquamation, and in thirty per cent. of those inoculated with the blood of cases of scarlet fever; the other was a bacillus (to which the term *bacillus scarlatinæ* was provisionally applied). It occurred in every tube inoculated with the desquamation after the termination of the third week, and in every tube inoculated with blood taken before the third day of the fever. Inoculation of the diplococcus gave negative results. The bacillus, inoculated into rabbits and guinea-pigs, produced fever with local erythema followed by desquamation. In a calf, inoculation was followed by vomiting and pyrexia, and by death in a few hours. It is a pity that Dr. Edington did not inoculate a calf with blood from a case of scarlet fever, in order to compare the result with those obtained from the inoculation of his bacillus, of Dr. Klein's streptococcus, and of the Hendon udder-ulcers. At present the only safe course is to reserve judgment on the main question, while acknowledging that Dr. Edington has made an important contribution to our knowledge of the pathology of scarlet fever.

The epidemic of rabies and hydrophobia which commenced in the spring of 1885 seems to have come to an end, so far as London is concerned, in the early autumn of 1886. No case of hydrophobia was returned in London from September, 1886, to April, 1887, both inclusive. One death occurred in May last; but there is no reason to suppose that another epidemic is commencing, although the police regulations have been relaxed in London. In other parts of the country, where cases of rabies have been increasing in number, it has been necessary to make the regulations more stringent. It is one of the disadvantages of the Anglo-Saxon love of decentralization that local authorities alone have the right of enforcing orders of this nature, and that it is practically impossible to get any considerable number to act in concert. It thus happens that, while we are stamping out rabies in London, it is allowed to increase in the North, and *vice versa*. The London epidemic of hydrophobia reached its maximum in October and November, 1885; the stringent police order came into force early in November; all dogs were required to be muzzled or kept under control, and ownerless dogs were condemned to death. An enormous number of stray curs were taken to the Home for Lost Dogs, and there put to a painless death.

The immediate effect of the police order was not very marked. There was, it is true, a sudden drop in the number of cases in December; but, remembering the incubation-period of hydrophobia is at least six weeks, it would not be safe to attribute the decline to the order, the more as three deaths occurred in January, and three more in March. During the spring and early summer months the average is generally low, and it is not until we look at the returns for the last five months of 1886 that we can recognize that the epidemic had been extinguished. Altogether, thirty-five persons had died of the disease during the epidemic, and of these, eighteen, or more than half, succumbed during the last five months of 1885; while during the same portion of 1886 not a single death from the

disease occurred. This is the more remarkable as September, October, and November are believed to be the months of greatest prevalence of hydrophobia in this country.

Table showing the Number of Deaths in each Month from Hydrophobia during the Epidemic of 1885–1886. (*London only.*)

	1885.	1886.	1887
January	1	3	0
February	0	0	0
March	0	3	0
April	3	1	0
May	2	0	1
June	1	0	
July	1	1	
August	3	2	
September	4	0	
October	5	0	
November	5	0	
December	1	0	

The report of the commission appointed to investigate M. Pasteur's method will be presented to Parliament on June 27. It is understood to be very favorable to his claims.

The arrangements for the meeting of the British Medical Association in Dublin on August 2, 3, 4, and 5 are now nearly complete. The address by the President, Dr. John T. Banks, Regius Professor of Physic in the University of Dublin, will be delivered on the afternoon of the first day; but previously members will have had the opportunity of listening to two sermons: one in the morning, in the Catholic Pro-Cathedral, by the Rev. Martial Klein, once a surgeon in the French army, but now a member of the Society of Jesus and Professor of Biology in University College, Dublin; the other in the afternoon, by the Bishop of Meath, an eloquent and learned prelate of the Protestant Church of Ireland. The chief discussion in the Section of Medicine will be on "Aphasia," introduced by Dr. Charlton Bastian, F.R.S., the most profound and original of modern writers on that most interesting topic. The Section of Surgery will discuss the "Radical Cure of Hernia," and already four papers and fourteen speeches are promised on that subject alone. Dr. Playfair will introduce the question of the "Prevention of Puerperal Fever" to the Obstetric Section, and Dr. Halliday Croom that of "Displacements of the Uterus," two topics generally provocative of much discussion. The special subject in the Section of Pharmacology and Therapeutics is the "Therapeutics of the Uric-Acid Diathesis." No less than eighteen surgeons, including Dr. Argyll Robertson and Mr. Nettleship, have signified their intention of discussing the subject of the "Etiology and Treatment of Convergent Concomitant Strabismus," which will be introduced to the Ophthalmological Section by Mr. Simeon Snell, of Sheffield. Dr. Landolt, of Paris, and Dr. Uhthoff, of Berlin, are coming over to read papers in this Section. Dr. Apostoli, of Paris, has promised to read a paper on the "Electric Treatment of Fibroid Tumors of the Uterus," giving full statistics of all the cases treated from July, 1882, to July, 1887; Dr. Kocher, of Berne, will read a paper on "Cachexia Strumipriva and Myxœdema;" Sir Spencer Wells will compare Porro's operation with Cæsarean Section; and Dr. Benjamin Ward Richardson will discourse of his favorite subject, "Alcoholism." There will thus be no lack of subjects of the greatest scientific and practical importance for discussion. There will also be more than the usual list of social festivities. The University of Dublin has offered every facility to the Association, and, in connection with the meeting, it intends to confer the honorary degree of M.D. on Professor Gairdner, of Glasgow, who delivers the Address in Medicine; on Dr. Waters, of Chester, who has been so long identified with the political activity of the Association; on Sir James Paget, Sir Spencer Wells, and Sir John Semon. Prince Albert Victor (the eldest son of the Prince of Wales) and the Lord-Lieutenant are to receive honorary degrees on the same day.

Dr. Morell Mackenzie has succeeded in removing the greater part of the growth which has interfered with the health of the Crown Prince of Germany. Professor Virchow has, after careful examination of the fragments, declared the affection to be *pachydermia verrucosa*, and non-malignant. It has required, however, all his authority to silence the objections of those who maintained that the tumor was cancerous and advised the removal of half the larynx. The Crown Prince is now staying in an hotel at Norwood, close to the Crystal Palace, a locality which has a great reputation, probably quite undeserved, for its salubrious climate. He is seen frequently by Dr. Morell Mackenzie, and Dr. Norris Wolfenden has gone to live at Norwood in order to carry out Dr. Mackenzie's treatment. He has the intention to attempt the removal of the small remainder of the growth at an early date. The Prince is quite hoarse, but otherwise in good health.

Dr. J. Hutchison, of Glasgow, has been using a tincture of Siegesbeckia orientalis in ringworm with success. The plant belongs to the natural order Compositæ, and has a local reputation in the Mauritius as a cure for all the ills that flesh is heir to. The rest of the world will perhaps be content if other observers find it as efficacious against tinea circinata, tinea tonsurans, and tinea sycosis.

June 19 was Hospital Sunday in London this year. The amount collected is not yet known, but, so far as at present appears, the total is not likely to be unusually large. For the last two years special public meetings have been held in various parts of London in the week preceding Hospital Sunday, in order

to arouse greater public interest in the fund. The managers of the hospitals situated in each locality have been asked this year to arrange for these meetings, and to ask the friends of each hospital to take part in the proceedings. This request has not met with unanimous compliance: certain hospitals have refused point-blank to help, and others were lukewarm. The honorary secretaries of the fund thought fit to denounce these hospitals at a meeting, and made use of threats which were interpreted to mean that the sum voted to these recalcitrant institutions would be diminished or entirely stopped. Sir Sydney Waterlow, the chairman of the committee of distribution, after a rather acrimonious correspondence had gone on for more than a week in *The Times*, repudiated the threat, but the mischief has been done. Mr. John Biddulph Martin, chairman of the Economic Section of the British Association, and the treasurer of Charing Cross Hospital, has printed a memorandum stating the reasons which have led the hospitals to decline to assist in getting up the local meetings. Shortly stated, there are two,—namely, that to do so would interfere with the established rule of these hospitals to make special efforts to enlist the special sympathy and support of persons resident in their own localities, and that the Hospital Sunday Fund was started to add to the resources of the hospitals by tapping new sources of supply, and not to cut into the existing sources of revenue. Perhaps there is yet a stronger reason, for injudicious friends of Hospital Sunday Fund have maintained that we want a central board controlling the finances and administration of all hospitals. Such centralizing proposals, as I have remarked elsewhere in this letter, are always detested in this country. *Hinc illæ lachrymæ.*

The creation of a studentship in pathology, under the provisions of the trust fund left by the late Mr. John Lucas Walker, is the first instance of the endowment of pathological research. The first "student," Dr. William Hunter, of Edinburgh, has just been named, and Cambridge may be congratulated on having found so promising a pathologist, or, as the late Dr. Walter Moxen would have had us say, "pathonomist," for the first holder of the studentship.

Fifteen new Fellows of the Royal Society were elected on June 9. Four are members of the medical profession, but only two of these owe this crowning distinction to their medical achievements. These are Dr. J. Theodore Cash, recently appointed professor of therapeutics in the University of Aberdeen, and Dr. W. R. Gowers, the well-known neurologist. The others are Surgeon Major George King, known as an Indian botanist, and Sir John Kirk, K.C.M.G., of Zanzibar, the friend of Livingston and many other African explorers. DAWSON WILLIAMS.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

THE Thirty-Eighth Session of the Medical Society of the State of Pennsylvania was held at Bedford Springs, June 29 and 30, and July 1, 1887. About two hundred delegates and permanent members were present.

The Society was called to order by the President, R. Davis, M.D., of Wilkesbarre, at 9 A.M., June 29, and the proceedings were formally opened by the Rev. E. N. Kremer with prayer.

The address of welcome was delivered by S. H. Gump, M.D., Chairman of the Committee on Arrangements. The programme presented by the committee was approved and adopted.

Dr. Edward Jackson, Chairman of Committee on Medical Legislation, reported progress. The bill read at the last meeting of the Society had failed to pass the Legislature, and for the present nothing more can be done, but correspondence had been kept up with the county medical societies, many of which had agreed to appoint a committee to agitate the subject and advance public opinion upon the propriety of having such a law. In conclusion, he submitted a formal resolution requesting each county medical society to consider the subject of establishing a State board of examiners, and to appoint a committee to co-operate with the State Medical Society. This was adopted.

The report of the Publication Committee was criticised. The resolution offered at the last meeting by Dr. Packard restricting the publication of scientfic papers to their titles in the Proceedings was not adopted, but a resolution prevailed to exclude unnecessary matter from the annual volume.

The resolution offered at the last meeting by Dr. W. H. Parish dividing the scientific work of the meeting so that the surgical, medical, and obstetrical addresses and communications should occupy in rotation the three days of the session, each day to be devoted to one of these three branches of medicine, was carried after considerable discussion. [This resolution was reconsidered and lost on the last day of the session. It was resolved that the Addresses in Medicine, Surgery, and Obstetrics should be delivered in rotation at successive meetings, and that the Address in Hygiene be given a place early in the session.]

In the afternoon session a number of interesting papers were presented. J. B. Murdoch, of Pittsburg, delivered the Address in Surgery. Among recent advances in this department made possible by improvements in treating wounds, the operation of amputation through the foot, known as Chopart's operation, deserves special consideration. By this method sufficient material is saved to

give a useful foot. The lecturer reported a case in which this operation was performed on both feet, and the patient was afterwards able to walk erect with only one cane, and even for a short distance without any assistance or support. Plaster casts were exhibited showing the successful result of this operation.

The Address in Ophthalmology was delivered by Charles S. Turnbull, M.D., of Philadelphia. Charles W. Dulles, M.D., of Philadelphia, read a report on hydrophobia for 1886, in which he criticised the Pasteurian method of treatment on account of its empirical and unscientific character. Until the pathology of the various conditions accompanied by so-called hydrophobic symptoms is more clearly understood, the foundation for a really scientific therapeutics cannot be laid.

John V. Shoemaker read a paper advocating the "Use of Medicated Plasters in the Treatment of Diseases of the Skin," and exhibited some pharmaceutical preparations of this character.

An interesting specimen of a testicle removed from the right labium majus of a married woman (transverse hermaphrodite), aged 40 years, was demonstrated by Howard A. Kelly, M.D., of Philadelphia.

In the evening the Society, as the guest of the Bedford County Medical Society, enjoyed a reception and banquet at the Bedford Springs Hotel, at which numerous short addresses were made.

On the second day the proceedings were opened by prayer, and the Address in Medicine was delivered by Frank Woodbury, M.D.* Traill Green, M.D., of Easton, read a paper on "Palatable Therapeutics," in which he contrasted prescriptions and methods of fifty years ago with those in vogue to-day. He praised very highly modern pharmacy, which has given us alkaloids and pleasant medicines in place of the nauseating compounds formerly used, and he declared that at the present time diseases are treated in a much milder way than in the days of heroic dosing. He did not think that a physician need resort to any unpalatable remedy in order to treat disease successfully.

This paper gave rise to an animated discussion. Professor Remington, of the Philadelphia College of Pharmacy, spoke of the administration of quinine suspended in the syrup or elixir of glycyrrhizin, and advised that no acid should be added in writing the prescription. The quinine should not be dissolved, but merely suspended in the mixture, or it may be added in powder to the solution of glycyrrhizin at the time of administering the remedy.

George Stubbs, M.D., of Philadelphia, read a paper on "Iodoform in Surgery," advocating the use of a chemically pure iodoform as a perfectly antiseptic dressing for wounds.

Papers on the treatment of phthisis by new methods were read by William F. Waugh, M.D.,† S. Solis Cohen, M.D., and Thomas J. Mays, M.D., in which the first opposed the Bergeon method, and the latter two gave it a qualified endorsement, not as a bactericidal treatment, but as a means of relieving some of the symptoms.

John H. Packard, M.D., of Philadelphia, reported a case of stricture, probably malignant, of the colon, for which he successfully performed right inguinal colotomy, after the usual operation in the left loin had failed to reveal the colon. The patient is now living; all the fæces are discharged through the artificial anus, but there is no offensive odor about her person, so that her condition would not be suspected by those around her.

In the afternoon, Dr. S. Wolfe, of Skippack, Pennsylvania, read the Address in Obstetrics, advocating antiseptic precautions during labor, and the use of washes after confinement as a means of preventing or treating puerperal septicæmia.

This paper was discussed by Drs. Montgomery, Parish, and others.

William C. Bane, M.D., of Washington County, read a paper describing two cases of nystagmus associated with astigmatism, one myopic and the other hypermetropic. Great improvement was observed after properly correcting the errors of refraction.

Edward Jackson, M.D., read a paper entitled, "When and How to use Mydriatics."

The Annual Address of the President (see page 685) was delivered at the evening session, according to custom.

At the opening of the third day's morning session, Dr. J. D. Thomas, of Pittsburg, read the Address in Hygiene, in which the necessity of disinfecting discharges from cases of all zymotic diseases was insisted upon. The methods of disposal of sewage were considered at length, and the importance of a system by well-laid sewers in all large communities was emphasized. A vigorous discussion following this address showed the increasing interest of the profession in sanitary subjects.

The following papers were read by title only: Remarks on the Value of Diet in the Treatment of Chronic Joint- and Spine-Disease, by A. Sidney Roberts, M.D., of Philadelphia; Plastic Surgery of the Vagina, by C. M. Wilson, M.D., of Philadelphia; Address in Mental Disorders, by J. Z. Gerhard, M.D., of Harrisburg; A Case of Ovariotomy followed by Herniotomy four days after, with Recovery of Patient, by John C. Da Costa, M.D., of Philadelphia; Some Considerations upon the Use of Expectorants in Pulmonary Diseases, by J. C. Lange, M.D., of Pittsburg; Ovarian Tumors complicating Pregnancy,‡ by E. E. Montgomery, M.D., of Philadelphia; Supra-Pubic Lithotomy, by Charles W. Dulles,

* This will appear in the next issue of the *Times*.

† Dr. Waugh's paper will shortly appear in these pages.

‡ See page 693, *ante*.

M.D., of Philadelphia; Remarks on Vomiting, Physiological and Clinical, by J. H. Musser, M.D., of Philadelphia.

In the business meeting the Society voted an appropriation of one thousand dollars to the Entertainment Committee of the Ninth International Congress, and three hundred dollars (one hundred annually for three years) to the Rush Monument Fund.

The following officers were elected for the next meeting:

President.—R. J. Levis, M.D., Philadelphia.

Vice-Presidents.—J. T. Ullom, M.D., Greene County; J. L. Seybert, M.D., Centre County; W. F. Hughes, M.D., Bedford County; A. M. Cooper, M.D., Bucks County.

Permanent Secretary.—William B. Atkinson, M.D., Philadelphia.

Recording Secretary.—Charles W. Dulles, M.D., Philadelphia.

Corresponding Secretary.—J. H. Musser, M.D., Philadelphia.

Treasurer.—O. H. Allis, M.D., Philadelphia.

Chairman of Committee on Publication.—W. H. Parish, M.D., Philadelphia.

The next meeting will be held in Philadelphia on the first Tuesday in June, 1888. Dr. John H. Packard is Chairman of the Committee on Arrangements.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

MEETING OF MAY 26, 27, and 28, 1887.

(Continued from page 682.)

Third Day, Morning Session.

CONSTITUTIONAL CAUSES OF THROAT-AFFECTIONS. BY S. W. LANGMAID, M.D., OF BOSTON.

THE writer suggested that the most interesting lesson to be drawn from the observation of the lesions in throat-trouble is that there is some underlying cause, which may be external or intrinsic. Our attention has been directed too much to the local condition and to atmospheric influences. Why atmospheric conditions are active at one time and not at another is a matter worthy of consideration. One of the most intractable diseases which we have to treat is chronic recurring coryza. Sometimes destruction of the mucous membrane of the nose is sufficient; but, as a rule, the treatment must take in all the circumstances of the life of the sufferer. A sense of a lump in the throat, so often complained of, is often an indication of an overloaded colon, and more good is done by a dose of castor oil than by local treatment. The so-called clergyman's sore throat, or follicular laryngitis, has its origin not in the necessary use of the throat, but the sedentary life, with errors in diet and other conditions, plays an important part. Throat-trouble is sometimes a rheumatic or gouty manifestation, and treatment has to be directed to this condition. Local treatment in many throat-troubles is of the nature of repair; constitutional and hygienic treatment must be in the direction of a renewal of the normal processes. Swelling and congestion of the mucous membrane, hypertrophy of the tonsil, elongation of the uvula, etc., must be regarded as symptoms, and the symptoms will not be banished unless the underlying constitutional abnormality be removed.

In the discussion, Drs. Glasgow and Cohen agreed with the reader of the paper.

Dr. Delavan said that in this country we pay too little attention to the hygienic surroundings which are employed at the various spas abroad. This method of treatment is very beneficial in cases of interference with the portal circulation and in gouty diathesis. He had found the salicylates of great service in some of these cases of throat-trouble. Habitual constipation usually accompanies chronic disease of the pharynx. I have used in these cases the officinal pill of iron and aloes, directing that one be taken at night.

The following papers were read by title:

"Affections of the Crico-Arytenoid Articulation," by George W. Major, M.D., of Montreal.

"Cancer of the Larynx," by Hosmer A. Johnson, M.D., of Chicago.

"A Case of Recurring Laryngitis Hemorrhagica," by C. E. Bean, M.D., of St. Paul.

The report of

A CASE OF STENOSIS OF THE LARYNX TREATED BY DIVULSION AND SYSTEMATIC DILATATION

was contributed by Morris J. Asch, M.D., of New York.

Miss K. enjoyed good health up to about the age of 27. She then had some pulmonary disorder the exact nature of which could not be ascertained. In 1884 she had some wheezing in breathing, with slight cough. These symptoms increased in intensity gradually, and in May, 1885, the patient came under the observation of the author. There was at this time great dyspnœa, which was increased by lying down. Examination of the throat showed no abnormality in the larynx or above the cords. Below the cords there were two white swellings united by a membrane posteriorly. The opening of the larynx was diminished to one-third of the normal size. The membrane was cut and divulsion performed. This caused great improvement. Later metallic sounds were used daily, and the forceps once a week. She grew much better, and ceased attending. In September she again returned, with the difficulty of breathing as great as before. This was the result of acute inflammation of the larynx. Under

the use of steam and cold compresses the swelling subsided. O'Dwyer's tubes were tried, but they at once produced spasm and were coughed out. Schroeder's hard-rubber tubes were then used, and within three months the cure was perfect. All the symptoms have now disappeared. There was no history of syphilis and no history of previous inflammation. The affection was evidently the result of subcordal hypertrophic laryngitis.

Dr. J. Solis Cohen said that his experience in stenosis of the larynx had been limited. In one case, reported twenty years ago, he had removed a morbid growth by thyrotomy after it had been destroyed by the internal use of the galvano-cautery, which was probably the first use of the galvano-cautery for this purpose in the United States. The growth had been examined by several microscopists, who pronounced it epithelioma; but this was evidently an error, as the patient still lives. On this supposition I separated the thyroid cartilage and removed the tumor with one vocal cord. Preliminary tracheotomy had been performed ten days previously. The operation was followed by adhesion of the vocal cord to the tissues of the opposite side. He then had devised an instrument to cut this adhesion. He never had had the courage to attempt dilatation of the larynx without previous tracheotomy. It is better to perform tracheotomy so as to have nothing to interfere with the breathing, and then pursue the most active measures for the relief of the stenosis. When the operation is performed with antiseptic precautions the tracheotomy-wound heals up in a very short time. He had seen it close within four or five days of the operation. The danger from the operation is less than the risk of injury from the other methods of treatment.

Dr. E. C. Morgan recently had had under treatment a case of laryngeal stenosis. During a period of eight or ten months he was enabled to control this by the administration of iodide of potassium and by local applications of iodo-glycerin to the larynx. Finally, the disease advanced so far that on several occasions he advised tracheotomy, to be followed by dilatation. The patient postponed the operation, although warned of his danger. He had at times suffocative spells at night, and finally succumbed in one of these spasmodic attacks. If tracheotomy had been allowed and dilatation performed, that man would probably have been alive to-day.

Dr. Delavan: The various forms of dilators used in these cases are likely to be replaced by O'Dwyer's tubes. This method has a most promising future before it. The tube can be left in for a length of time and respiration go on uninterruptedly.

A paper was presented by D. Bryson Delavan on "The Etiology of Deflections of the Nasal Septum."

Dr. S. W. Langmaid read the next paper, on

FOREIGN BODY IN THE LARYNX.

The patient came under observation three months after swallowing a pin about two inches in length, which had lodged in the throat. Immediately after the accident an unsuccessful effort had been made to remove it with the bristle-probang. At the time that she came under the speaker's notice there were ulcerations of the larynx, which were relieved by treatment. Two years later the patient again presented herself, when an examination showed the pin, which had emerged from the ventricular band with the head down. It was with some difficulty removed.

A PECULIAR APPEARANCE IN THE PHARYNX.

Dr. J. Solis Cohen stated that in several instances he had seen, on examining the pharynx, what appeared to be the belly of a muscle above the Eustachian tube, and that from this there extended to the fornix of the pharynx what looked like a tendon. This he had seen on both sides. He asked whether or not any of the other members had observed the same appearance.

The report of a case of

RECURRENT NASO-PHARYNGEAL TUMOR; CURE BY ELECTROLYSIS,

was read by Dr. Rufus P. Lincoln, of New York.

The patient presented himself in April, 1886. A growth had been removed from the posterior nares by another physician one year previously. It returned, and the operation was repeated six months later. When the patient came under observation he was unable to breathe through the left nostril. On examination, a large growth was found occupying the left half of the posterior nares, and it was decided to treat this by electrolysis. On June 3, two needles connected with the negative pole of the battery were introduced through the anterior nares into the growth, while the positive pole terminated in two large sponge-electrodes which were applied to the front and back of the chest. In all sixteen applications were made, at intervals of three or four days. This caused an entire disappearance of the growth. The immediate effect of the electrolysis was to cause distention and a change in the color of the growth, but these passed off in the course of twenty-four hours. There is up to the present time no evidence of return of the growth.

DISCUSSION.

Dr. F. H. Hooper: In October, 1881, a youth presented himself with a tumor extending from the tip of the right nostril into the naso-pharyngeal cavity. There had been a great deal of hemorrhage, and the patient was in a bad condition. He was sent into the hospital and operated on by Dr. J. C. Warren with the galvano-cautery snare, and the whole

mass removed in one piece. From that time to this the patient has been constantly under treatment. The tumor has been growing, and from time to time has been snared off. The tumor has been pronounced to be a most malignant form of myxosarcoma, but the general health is excellent. He proposes to try the effect of electrolysis upon the growth.

Dr. D. Bryson Delavan said that during the past fifteen years he had seen a number of these patients operated upon, and recalled many cases in which the result was disastrous. Although there have been successful cases, none had come under his observation. The great point is in the early diagnosis. If taken in time, even if it cannot be cured, it can be kept in check as a rule. After the age of twenty-five years it has been stated that these tumors have a tendency to stop growing, so that if kept in check until this age they may entirely disappear. It seems to him that the galvano-cautery exercises a modifying influence on the tissues which remain which cannot be caused by the knife.

TWO UNIQUE CASES OF CONGENITAL OCCLUSION OF THE ANTERIOR NARES. BY W. C. JARVIS, M.D., OF NEW YORK.

Complete congenital occlusion of the anterior nares is rare, and the author has been unable to discover any cases in searching the literature of the subject. The first case was a young man 18 years of age, with complete closure of both nostrils. Inspection showed on each side within the anterior nares a cup-shaped depression of white, glistening membrane. On the left side a small hole was discovered. The operation was performed in April, 1886. The burrs devised by the speaker, connected with an engine, were used to cut through the cartilaginous occlusion. This was accomplished in a few minutes, and the air passed freely through the nostril. At a subsequent operation the right nostril was opened. In April, 1887, the opening in the right nostril had become contracted, and had to be reopened. In a second case, in which the anterior nostrils were occluded by an osseous growth, the operation was performed in the same manner as in the previous case, with success.

A COMPARATIVE STUDY OF SOME OF THE METHODS OF TREATMENT BEST ADAPTED TO THE RELIEF OF OCCLUSION OF THE POSTERIOR NARES. BY DR. ALEXANDER W. MACCOY, OF PHILADELPHIA.

The paper was restricted to the consideration of occlusion due to enlargement of the soft parts. He had never seen occlusion of the posterior nares due to osseous growth. He referred to the methods used in the treatment of occlusion of the posterior nares, and highly recommended the use of chromic acid fused on the end of a probe, the end of which is covered with a tube, which is withdrawn when the probe has reached the desired position. This is followed by the use of an antagonistic solution. He had found this better than the use of the galvano-cautery. After using cocaine he had not been able to use the cold-wire snare in these cases, on account of the contraction caused by the drug. He had also found difficulty in using the needles recommended by Dr. Jarvis. The chief object of the paper was to call attention to the superiority of chromic acid used in this way over the other methods of treatment which had been recommended. He did not recommend the use of the acid either in crystal or in solution, for then it was not easy to limit the application to the desired point.

DISCUSSION.

Dr. W. C. Jarvis never uses cocaine as a preliminary measure when he intends to remove posterior hypertrophies. He first includes the hypertrophies in the loop and tightens the wire before applying the cocaine spray. The tissue included in the loop cannot be affected by the contraction produced by the drug. We thus have the advantages of the anæsthetic without its disadvantages. It has been pretty generally recognized that chromic acid has many disadvantages. It may produce serious symptoms. The snare will accomplish in a few minutes what chromic acid requires considerable time to do.

Dr. C. C. Rice agreed in the main with the author of the paper. The turbinate bodies are difficult to penetrate with the needles, and there are many cases in which it is difficult to apply the loop posteriorly. He had not found any special disadvantages in the use of chromic acid.

Dr. D. Bryson Delavan formerly used chromic acid, but then gave it up. Lately he had again tested it, selecting for this purpose five patients, three of whom were physicians. He added enough water to the crystals to make them deliquesce, and then applied it with a cotton-wrapped probe, the excess of acid having been removed. He had also used it by fusing it on a probe. In all these cases there was more reaction than follows the use of the cautery or the snare, and all the patients preferred the cautery to the chromic acid.

A paper on "Plaster-of-Paris Dressing for Fracture of the Nose," by J. W. Robertson, M.D., of Detroit, was read by title.

Dr. De Blois, of Boston, exhibited a plaster splint which he had employed with advantage in a case of fracture of the nose. The splint consisted simply of a plaster cast into which a piece of roller bandage had been incorporated. This was applied over the nose and held in position by the strips of bandage.

Dr. J. O. Roe, of Rochester, exhibited a saw run by an electric motor.

The Association held an executive session,

during which the following business was transacted:

The report of the Committee on the Congress of American Physicians and Surgeons was presented and adopted.

The following officers were elected for the ensuing year:

President. — Dr. R. P. Lincoln, of New York.

Vice-Presidents.—Drs. J. N. Mackenzie, of Baltimore, and S. W. Langmaid, of Boston.

Secretary and Treasurer.—Dr. D. Bryson Delavan, of New York.

Librarian.—Dr. T. R. French, of Brooklyn.

Council.—Drs. Frank Donaldson, of Baltimore, J. Solis Cohen, of Philadelphia, F. H. Hooper, of Boston, and E. C. Morgan, of Washington.

The following were elected Corresponding Fellows: Dr. A. Gouguenheim, of Paris, and J. Moure, of Bordeaux.

Dr. A. Jacobi, of New York, was elected Honorary Fellow.

REVIEWS AND BOOK NOTICES.

A Text-Book of Pathological Anatomy and Pathogenesis. By Ernst Ziegler, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students by Donald MacAlister, M.A., M.D. Three parts complete in one volume. New York, William Wood & Co., 1887. 8vo, cloth, pp. 1091.

The translation of the second German edition of Ziegler's text-book of pathological anatomy by Dr. Donald MacAlister has placed a valuable work of reference in the hands of English-speaking students. Of the twelve parts into which the book is divided, seven are devoted to general, and five to special, pathological anatomy. The annotations made by the editor give additional value to a work which is encyclopædic in its completeness. The pages are illustrated by numerous cuts, and the type is clear and readable. Altogether, it is a most satisfactory book for students.

Transactions of the New York State Medical Association for the Year 1886. Volume III. Edited for the Association by Alfred Ludlow Carroll, M.D.

This handsome volume of transactions is embellished with three portraits of distinguished deceased members: Austin Flint, M.D., Frank Hastings Hamilton, M.D., and John P. Gray, M.D. Among the important papers are the President's Annual Address, by E. M. Moore, M.D., of Rochester, on "Subluxation of the Radius from Extension in Young Children;" "The Discussion on Shot Wounds of the Intestines," introduced by E. S. Tremaine, M.D.; "On Pulmonary Tuberculosis," introduced by H. D. Didama, M.D.; and "On Eclampsia," introduced by W. T. Lusk, M.D. A number of communications upon other subjects also appear, but the chief interest of the meeting was given to the consideration of the important questions just named.

NEW REMEDIES AND CLINICAL NOTES.

A New Form of Inflammation of the Lips and Mouth.—In a paper read by Jonathan Hutchinson, F.R.S, LL.D., before the Royal Medical and Chirurgical Society of London, on a form of inflammation of the lips and mouth which sometimes ends fatally, and is usually attended by some disease of the skin, the distinguished author discussed his subject most thoroughly. The disease is one which it is believed has not been previously recognized, in which the superficial ulcerations occur in the lips and in various parts of the mouth, followed sooner or later by some form of skin-disease and tending to end fatally. The form of skin-disease may vary, but the hands and feet are the parts usually affected, and the nails are especially prone to suffer. In some instances the eruption may consist of bullæ which are followed by free papillary outgrowths. The patients attacked are usually in middle life or in early senile periods. No special antecedents can be alleged as the probable cause of the malady. Unless checked by treatment, the disease appears to run its course in about six months, producing death by exhaustion. There seems reason to believe that opium given in repeated doses will cure it. All the best-marked cases as yet observed have occurred in males, but in several milder ones the patients were women. Of the most characteristic, two were master-tanners, one a farmer, one a clergyman, and one a gentleman of no occupation; all these resided in the country. Careful inquiry has failed to support the suspicion that the disease might perhaps be due to contagion from animals. Of these five cases, two ended fatally. The patients who died were those first observed, and since the discovery of the efficacy of opium no case has ended in death. The observation of the value of opium was simultaneously made by the President of the Society, Mr. Pollock, and by the author, two different patients being at the same time under their separate treatment and recovering under this drug. Since then every case has yielded if the opium were sufficiently pushed. In one, however, the disease did not yield quickly, and for more than a month seemed likely to terminate fatally.

As regards permanency of cure, in one case the patient is known to have been quite

well four years after his recovery, in another there is reason to believe that such is the fact, and in the third a period of two years has elapsed. In two of the milder cases occurring in younger patients, the disease has repeatedly relapsed.

A great variety of remedies had been tried without benefit before opium was used. In no single instance has there appeared to be any tendency to spontaneous improvement.

In all the cases the inflammation of the lips and mouth took definite precedence of the skin-symptoms, and in some the latter were very slight. It is not known that any case has as yet been obtained among the poorer classes of society.

The author desires to abstain for the present from expressing any definite opinion as to the causes or nature of the malady. He would, however, venture to suggest that it is allied to other forms of skin-disease in disturbed health and occurring in early senile periods, such as certain peculiar varieties of psoriasis, pemphigus, lichen planus, and pityriasis rubra. In confirmation of this suggestion, and as an appendix to this paper, a case is narrated (with a portrait in illustration) in which an elderly lady had a kind of spreading eczema-psoriasis of the hands and scalp. She lost all her nails and hair, and was rapidly failing in health despite various methods of treatment, but finally recovered quickly and completely under opium. Her case does not belong to the group described in the paper, because she never at any time had buccal disease.

Dermatitis Gangrænosa Infantum.—H. Radcliffe Crocker, M.D., read a paper before the Royal Medical and Chirurgical Society, June 14, 1887, on this subject. Four groups of cases are described. In the first there was no evidence of varicella antecedent to the gangrenous or ulcerating eruptions, and in most it was distinctly negatived. In the second group are cases in which varicella preceded the sloughs or ulcers, which either developed immediately upon the varicella pustule or occurred as a sequela beginning in independent lesions. In the third group vaccination was the immediate antecedent. In the fourth group are placed certain cases of local gangrene resembling cancrum oris; but the individual lesions began in exactly the same way as the independent eruption which followed varicella, and there was a tendency to generalization, or at all events to extension beyond the region in which it started, in some of the cases. A general account of the disease is drawn up from an analysis of the preceding and other cases, and it is shown there is great difference in the severity of the eruption. In some the gangrenous patches were so numerous and extensive as to lead to the death of the patient in a few days, while on the other hand are cases of so mild a character that there were only superficially ulcerating pustules which came out in crops, thus protracting the disease as a whole for a considerable time, and usually accompanied by an intense pruritus. These milder cases appear to correspond with Mr. Hutchinson's varicella prurigo. Between the two extremes are cases of all grades of severity.

Comparison is made between the local and general gangrenous eruptions, and, among other things in common, it is shown that both attack girls more than boys, and occur about the same ages.

The conclusions arrived at are that the gangrenous eruptions are pathological accidents, so to speak, which in young children, especially when of tubercular constitution, might supervene upon any pustular eruption, although no doubt such a condition is much more common after varicella. Secondly, the determining factor is probably a micro-organism derived from without, though cultivation and inoculation experiments could alone prove the truth of this theory. Thirdly, the initial lesions, both of the local and general gangrenous eruptions, present the same characters.

Electricity for Arrested Lactation.—The patient was the mother of three children, all of whom had been brought up at the breast. The youngest had been fed in the same way for eleven months, when an attack of pneumonia interrupted this method of feeding. Two days later, when the infant was well enough to recommence, the secretion had completely ceased. This state of things persisted for a fortnight, during which the child, who refused other food, rapidly lost weight. It occurred to Dr. Aubert to try the effect of local faradization. The electrodes, well saturated with moisture, were placed right and left of each breast, and the current was graduated so as not to cause contraction of the pectoral muscles nor pain. After the first *séance*, which lasted twenty minutes, the right breast had evidently increased in size. The second day a few drops of milky fluid exuded, and on the third day a spontaneous flow took place in both breasts. On the fifth day the child was enabled to resume the breast-feeding, and further treatment had become unnecessary. A second observation is reported by Dr. Becquerel in a young woman of 20, in whom the lacteal secretion had been arrested in consequence of reiterated and intense mental emotion. After eight days' suppression, three *séances* of twenty minutes' duration sufficed to re-establish the secretion, which then continued in a normal way. The same result was obtained quite unexpectedly in a woman seven months after her confinement, where the arrest of the secretion had been immediate. Pierron, in a recent paper, stated his belief that by this means lactation could be caused in virgins.—*Lond. Med. Rec.*

MISCELLANY.

THE ENGLISH COMMISSION ON PASTEUR'S METHOD OF PREVENTING OR TREATING HYDROPHOBIA.—The British Parliamentary Commission, which has been engaged in the study of Pasteur's work for several years, has finally presented a report, which expresses confidence in the truth of Pasteur's claims with regard (1) to the presence of hydrophobia virus in the spinal cord of animals dying with the disease, (2) to its transmissibility to other animals by inoculation, (3) to the fact that animals can thus be rendered refractory to subsequent inoculations, or even the bites of rabid animals. Finally, it is highly probable, even after such bites have been inflicted upon unprotected subjects, that subsequent inoculation as practised by Pasteur is of service in preventing the development of the disease.

The committee observe, "Making a fair allowance for uncertainties and other questions which cannot now be settled, we believe it sure that, excluding deaths after bites by rabid wolves, the proportion of deaths in the two thousand six hundred and eighty-two persons bitten by other animals was between 1 and 1.2 per cent., a proportion far lower than the lowest ever estimated among those not submitted to M. Pasteur's treatment, showing, even at this lowest estimate, a saving of not less than one hundred lives."

The value of M. Pasteur's method is further confirmed by the results obtained in certain groups of his cases. Of two hundred and thirty-three persons bitten by animals in which rabies was proved, either by inoculation from their spinal cords or by the occurrence of rabies in other animals or persons bitten by them, only four died. Without inoculation it is more than probable that at least forty would have died. Further illustration of this successful result is shown among other additional groups of cases. Between the end of last December and the end of March, M. Pasteur inoculated five hundred and nine persons bitten by animals proved to be rabid, either by inoculation from their spinal cords or by the death of some of those bitten by them, or as reported on by veterinary surgeons. Of this number only two have died. One of these was bitten by a wolf a month before inoculation, and died after only three days' treatment. If we omit say one-half of these cases as being too recent, the other two hundred and fifty have had a mortality of less than one per cent., instead of twenty to thirty per cent.

"From the evidence of all these facts," the committee then say, "we think it certain that the inoculations practised by M. Pasteur on persons bitten by rabid animals have prevented the occurrence of hydrophobia in the large proportion of those who, if they had not been so inoculated, would have died of that disease; and we believe that the value of his discovery will be found much greater than can be estimated by its present utility, for it shows a method of inoculation by which it may be possible to avert after infection other diseases besides hydrophobia. His researches have also added very largely to the knowledge of this disease, and have supplied what is of the highest practical value,—namely, a sure means of determining whether an animal that has died under a suspicion of rabies was affected really with the disease or not."

MEDICAL BOOKS AND AUTHORITIES IN COURTS OF LAW.—The law in regard to medical books as evidence in courts of law is fairly and very intelligibly stated in a recent Kansas case, as follows. Dr. Campbell, a practising physician of more than twelve years' experience, testified as an expert, and, after showing some of the effects of chloroform upon the human system, was asked, "How is it regarded by medical authorities upon that subject, and by medical men who are authority upon that subject?" He answered, "It is regarded by writers on that subject, and by all men who have used it to any great extent, and by all universally, so far as I know, as a very dangerous agent, and an agent which, if pushed beyond a certain point, will produce death,—that is, is in danger always of producing death. To be sure, a great many men have used it a great deal, and have had no bad results from it." Although the courts are not uniform in their holdings upon the admissibility in evidence of medical and scientific books, the great weight of authority is that they cannot be admitted to prove the declarations of opinions which they contain. This is upon the theory that the authors did not write under oath, and that their grounds of belief and processes of reasoning cannot be tested by cross-examination.

THE WESTERN PENNSYLVANIA MEDICAL COLLEGE.—A graduating-class banquet, commemorative of the termination of the first year's lectures, was given by the Faculty on March 24, 1887. The number of graduates was twenty-two, the enrolment being sixty. The success of the first year of this school has been phenomenal. The trustees have erected a commodious college-building immediately adjoining the premises of the Western Pennsylvania Hospital. The corps of Professors in the Faculty numbers twenty-two, with an equal number of adjunct teachers and assistants. The next Fall course will begin September 27. A large proportion of the undergraduates have entered the Junior Class for the three years' graded course provided by the College. For Catalogue address Professor W. J. Asdale, Pittsburg.

A NEW MEDICINAL PLANT.—The leaves of the Gymnema Sylvestre of India, according to Professor Thistleton Dyer (in *Nature*), have the curious effect when chewed of abolishing temporarily the perception of sweet things by the tongue. Governor Elles, of Madras, is reported as having found that it "abolishes the power of enjoying a cigar." If it would abolish the taste for whiskey as well as tobacco it would be a valuable addition to our materia medica.

A BUREAU OF GENERAL INFORMATION.—Mr. Joseph B. Marvin, whose office is in the Corcoran Building, Washington, D.C., is the manager of "The Bureau of General Information" for research in the Library of the Surgeon-General's Office, which promises to be of considerable service to medical writers. The terms are one dollar per hour for research, ten cents a folio for type-writer transcripts, and thirty cents a folio for translations.

DR. PACKARD has removed to No. 1926 Spruce Street, Philadelphia.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 3, 1887, TO JULY 16, 1887.

LIEUTENANT-COLONEL A. HEGER, SURGEON.—Ordered to Fort Columbus, New York Harbor.

MAJOR J. H. JANEWAY, SURGEON.—Ordered to Benicia Barracks as post-surgeon; also as attending surgeon at Benicia Arsenal, California.

CAPTAIN H. P. BIRMINGHAM, ASSISTANT-SURGEON.—Ordered to Fort Myer, Virginia.

FIRST-LIEUTENANT C. E. WOODRUFF, ASSISTANT-SURGEON.—Ordered to Fort Mackinac, Michigan.

CAPTAIN C. K. WINNE, ASSISTANT-SURGEON.—Ordered to Fort Wadsworth, New York Harbor.

CAPTAIN VALERY HAVARD, ASSISTANT-SURGEON.—Ordered to Fort A. Lincoln, Dakota Territory.

CAPTAIN L. M. MAUS, ASSISTANT-SURGEON.—Ordered to Fort Schuyler, New York Harbor.

CAPTAIN J. B. GIRARD, ASSISTANT-SURGEON.—Ordered to Fort Lowell, Arizona.

FIRST-LIEUTENANT J. D. POINDEXTER, ASSISTANT-SURGEON.—Ordered to Camp Poplar River, Montana Territory.

FIRST-LIEUTENANT C. N. B. MACAULEY, ASSISTANT-SURGEON.—Ordered to Fort Gibson, Indian Territory.

CAPTAIN C. B. BYRNE, ASSISTANT-SURGEON.—Ordered to Washington Barracks, District of Columbia.

CAPTAIN T. E. WILCOX, ASSISTANT-SURGEON.—Ordered to Fort Niobrara, Nebraska.

MAJOR H. LIPPINCOTT, SURGEON.—Ordered to Fort Union, New Mexico.

MAJOR P. J. A. CLEARY, SURGEON.—Ordered to Fort D. A. Russell, Wyoming.

MAJOR D. G. CALDWELL, SURGEON.—Ordered to Fort Assiniboine, Montana Territory.

CAPTAIN G. H. TORNEY, ASSISTANT-SURGEON.—Ordered to Fort Robinson, Nebraska.

CAPTAIN WALTER REED, ASSISTANT-SURGEON.—Ordered to Mount Vernon Barracks, Alabama.

CAPTAIN J. H. PATZKI, ASSISTANT-SURGEON.—Ordered to Fort Huachuca, Arizona Territory.

CAPTAIN R. G. EBERT, ASSISTANT-SURGEON.—Ordered to Fort Custer, Montana Territory.

FIRST-LIEUTENANT J. E. PILCHER, ASSISTANT-SURGEON.—Ordered to Fort Monroe, Virginia.

CAPTAIN J. DEB. W. GARDINER, ASSISTANT-SURGEON.—Ordered to Fort Washakie, Wyoming Territory.

FIRST-LIEUTENANT A. R. CHAPIN, ASSISTANT-SURGEON.—Ordered to Newport Barracks, Kentucky.

MAJOR W. H. FORWOOD, SURGEON.—Ordered to Fort Snelling, Minnesota.

CAPTAIN H. O. PERLEY, ASSISTANT-SURGEON.—Ordered to Fort Wayne, Michigan
S. O. 156, A. G. O., July 8, 1887.

MAJOR WILLIAM S. TREMAINE, SURGEON.—Ordered for examination by Army Retiring Board at Governor's Island, New York Harbor. S. O. 151, A. G. O., July 1, 1887.

S. O. 159, par. 2, A. G. O., July 12, 1887, assigns CAPTAIN W. MATTHEWS, ASSISTANT-SURGEON, as member of Army Retiring Board at Washington, D.C., and relieves CAPTAIN J. O. SKINNER, ASSISTANT-SURGEON.

CAPTAIN J. O. SKINNER, ASSISTANT-SURGEON.—Granted leave of absence for four months, on surgeon's certificate of disability. S. O. 151, A. G. O., July 1, 1887.

CAPTAINS L. M. MAUS AND H. O. PERLEY, ASSISTANT-SURGEONS.—Ordered to accompany the Eleventh Infantry in changing station from Department of Dakota to Department of the East. S. O. 158, A. G. O., July 11, 1887,

CAPTAIN E. F. GARDNER, ASSISTANT-SURGEON.—Ordered to accompany the Twelfth Infantry from Madison Barracks to Duluth, and to return with Eleventh Infantry. S. O. 143, Division of the Atlantic, July 13, 1887.

CAPTAIN R. G. EBERT, ASSISTANT-SURGEON.—Will, in changing station from Fort Hamilton, New York Harbor, to Fort Custer, Montana, accompany the Twelfth Infantry from Department of the East to Department of Dakota. S. O. 159, A. G. O., July 12, 1887.

A Board of Medical Officers, to consist of MAJOR J. S. BILLINGS, SURGEON, CAPTAIN W. MATTHEWS, ASSISTANT-SURGEON, CAPTAIN F. C. AINSWORTH, ASSISTANT-SURGEON, is constituted to meet in this city for the examination of a candidate for admission to the Medical Corps of the Army. S. O. 157, A. G. O., July 9, 1887.

FIRST-LIEUTENANT H. S. T. HARRIS, ASSISTANT-SURGEON.—Will be relieved from duty at Fort Ringgold, Texas, upon the return of Assistant-Surgeon W. F. Carter, and will then report to commanding officer at Fort McIntosh, Texas, for duty. S. O. 73, Department of Texas, June 27, 1887.

FIRST-LIEUTENANT F. V. WALKER, ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 160, A. G. O., July 13, 1887.

FIRST-LIEUTENANT JULIAN M. CABELL, ASSISTANT-SURGEON.—Ordered for duty as medical officer at Department Rifle-Camp, near Bellevue, Nebraska, August 1 next. S. O. 66, Department of the Platte, July 8, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING JULY 9, 1887.

MEDICAL-INSPECTOR A. HUDSON.—Detached from the "Trenton," and wait orders.

MEDICAL-INSPECTOR W. K. SCOFIELD.—Ordered to relieve Medical-Inspector Hudson on the "Trenton."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING JULY 16, 1887.

LONG, W. H., SURGEON.—Granted leave of absence for thirty days, on account of sickness, July 12, 1887.

AUSTIN, H. W., SURGEON.—Granted leave of absence for thirty days, July 16, 1887.

WATKINS, R. B., ASSISTANT-SURGEON.—Relieved from duty at Marine Hospital, Detroit, Michigan; ordered to assume charge of service at Evansville, Indiana, July 9, 1887.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 6, 1887.

ORIGINAL ADDRESS.

ADDRESS IN MEDICINE.

Delivered at the Thirty-Eighth Annual Meeting of the Medical Society of the State of Pennsylvania, held at Bedford Springs, Pa., June 30, 1887.

BY FRANK WOODBURY, M.D.,

Professor of Therapeutics, Materia Medica, and Clinical Medicine in the Medico-Chirurgical College of Philadelphia, etc.

VIRCHOW, in a public address, recently declared that "disease has a material *ens:* its physical basis is the altered cell." This is the epitome of modern pathology and the problem of therapeutics. The possession of definite conceptions of the nature of disease based upon exact observation, both *intra vitam* and *post mortem,* distinguishes the medical science of to-day, and places it strongly in contrast with that of any preceding age. The employment of instruments of precision and the utilization of the results of the marvellous development of the other departments of science have enabled medicine to advance with such strides that to many its present condition appears a revelation, if not a revolution.

Increase of knowledge brings increased responsibility, and more accurate information concerning the nature of disease necessarily leads to improved therapeutics. The influence of recent advances in pathology upon our methods of treating disease, therefore, is the special topic which I wish to present for consideration in this address.

It was observed by the late Professor Flint that in many directions imperfect physiological knowledge had retarded the progress of pathology and of therapeutics. Is it not the case, at the present moment, that our knowledge of both physiology and pathology has apparently far outstripped that of the power of healing? Recent applications of such knowledge in sanitary science, by controlling epidemic outbreaks of yellow fever, smallpox, and cholera, and by successful disinfection, encourage the hope that equally great if not greater advances in sanatory medicine are just before us, if not actually within our grasp.

I would err if I failed to give a prominent place to the advances in medicine due to bacteriological studies, and to the discovery that most of the zymotic diseases are accompanied by the parasitic development and growth of living micro-organisms upon which the symptoms apparently depend. Moreover, similar organisms have also been found to be present in diseases which had not been previously considered infectious, such as pneumonia and meningitis. But before we hastily adopt bactericidal methods of therapeutics, we should be quite certain that they are the active agents in producing the symptoms, and that the welfare of the patient will not be imperilled. "Take care," says M. Peter, to the Paris Academy of Medicine, "take care lest in raising a club to strike the bacillus you do not at the same blow kill your patient."

The distinction is not made as often as it should be between bacterial infection and bacterial poisoning. Living bacteria must feed, and consequently must excrete. In some varieties of them the excretions are poisonous, and in others the excretions appear to be harmless to the human organism. The poisonous excreta are often of the nature of ptomaines. Pasteur has demonstrated that the virulent power of the bacteria of splenic fever is not a constant quantity: it can be intensified by propagation or rendered progressively weaker by cultivation, the organisms retaining their specific identity though losing their toxic powers. Wood and Formad have shown that diphtheria is probably caused by micrococci which are commonly found in the mouth, but which have acquired virulent properties in some unknown or accidental manner. Bacterial infection, therefore, does not always involve bacterial poisoning.

Since harmless micro-organisms may acquire toxic properties, some authorities believe that all toxic varieties were originally derived from innocent forms. A very interesting study of tuberculosis in birds* by J. Bland Sutton, F.R.C.S. (appearing in the *Journal of Comparative Medicine and Surgery* for October, 1886), led independently to the discovery of the identity of the disease in fowls and in man; and, secondly, to the inference that tuberculosis was originally communicated to man from the lower animals. A very suggestive and important hint is given as to the primary origin of the bacillus tuberculosis. It was ascertained that the disease prevailed to a great extent among grain-eating birds, that

* Ribbert, of Bonn, in 1883 had announced the fact that tuberculosis of fowls was identical with that of man.

the seat of local infection was the alimentary canal, and that the poisonous agent was tubercle-bacilli introduced with the food. It was found, moreover, that the excreta of the birds was a good breeding-place for bacteria, and that when grain was thrown upon the ground it became mixed with accumulated fæces, food-remains, moisture, feathers, etc., which thus were carried into the alimentary canal, together with numerous micro-organisms. "It is not improbable that the tubercle-bacillus may have its origin in this way," says Sutton, who further declares that "when microscopists shall have exhausted their endeavors in detecting specific differences among the infinite variety of micro-organisms, and then direct their endeavors towards the phylogeny of the various forms, they will possibly find that this remarkable bacillus, which be may fitly termed, with typhoid fever, a scourge and a bane of civilization, has been evolved from some harmless form, and that its peculiar character of thriving best at a temperature equal at least to that of the human body was first acquired by being transplanted into a medium, the chief constituents being *animal excreta*."

Nocard, who succeeded in inoculating tuberculosis from birds to mammals, thus proving the identity of the disease, believed that avian tuberculosis was acquired originally from human sputa or from the droppings of tuberculous cows; but Sutton considers this view as highly improbable. Furthermore, Sutton found that all that was necessary to check an epidemic of avian tuberculosis was to clean, whitewash, and ventilate the place where the fowls were kept.

This is in accordance with the clinical observation that external surroundings influence the development of pulmonary tuberculosis in the human subject. As directly bearing upon the question of the influence of the environment in causing the outbreak of phthisis, I may mention a valuable study of the distribution of this disease, entitled "Contribution to the Climatological Study of Phthisis in Pennsylvania," made by Dr. Wm. Pepper, published last year as the presidential address of the American Climatological Association.

The following are the points which are of special interest:

(1) Those portions of the State where phthisis is rarest are the most elevated, having a general altitude of fifteen hundred to two thousand, or, better still, of two thousand to three thousand feet, while in proportion as we enter districts of lower general altitude we find correspondingly increasing rates of mortality from consumption. (2) Some general correspondence is also observed between areas of greatest rainfall and the frequency of the disease. (3) In large cities the greater the crowding of population the greater the mortality from consumption. (4) Hereditary influence was frequently noted in replies to the circular sent out, and instances of supposed contagion were communicated by forty-five physicians.

It is quite evident that the tubercle-bacillus requires a peculiar condition of the tissues in order to develop, and that this condition of the tissues is likely to be encouraged or established by residence in a low, damp locality and by overcrowding. Culture-experiments have shown that this bacillus grows most rapidly at a temperature above that of the healthy human body,—a temperature, however, which is normal in birds, and among which the relative mortality is far greater than in man. An important point, therefore, in the therapeutics of pulmonary tuberculosis is to keep down the fever by the use of the antipyretics. As the treatment of phthisis will be discussed specifically by those who follow me, I do not consider it proper to speak of it further.

A great advance has been made of late years in the therapeutics of fever, as the result of a better understanding of normal thermogenesis and the pathology of pyrexia. The source of all the energies in the body is the food, which is largely consumed in maintaining the animal temperature. But, in addition to maintaining temperature, energy is required for building up the tissues and for supporting physiological functions, such as the circulation, respiration, secretion, and locomotion. In fever the regulating power is disturbed, and an excess of energy is manifested as heat, thus defrauding the tissues and weakening functional power, and causing wasting of tissues and bodily prostration, which are as characteristic of fever as is the elevated temperature.

In the discussion on Fever at the recent meeting of the American Association of Physicians, the belief appeared to be gen-

erally shared that too much attention had been given to the mere element of elevated temperature, and that it is not all of the fever process by any means. In the use of antipyretics we are to be guided by other features in the case, and while in some cases the temperature may be kept down by antipyrine it does not follow that the disease will be shortened by it or that relapses will be prevented. This does not deny usefulness to this method of treatment, but is a protest against routine practice. In typhoid fever, however, good results were reported from the early use of calomel followed by naphthalin in doses of sixty to eighty grains per diem, given during the first ten days. After this the treatment does not materially change the course of the disease, except that by preventing hyperpyrexia it makes the patient more comfortable. The fever process appears to be the result of lowering of function of certain nerve-centres by a poison circulating in the blood, the poison being in most instances connected with the growth of bacteria, but their presence is not necessary, since fever can be produced by the injection of peptones into the blood (as in Dr. Wood's experiments) or simply by fatigue.

If it be really the case that harmless bacteria may, under the peculiar circumstances mentioned by Sutton, become converted into the noxious or specific bacillus of tubercle, it certainly is not without analogy in other infectious diseases. The human alimentary canal contains many micro-organisms which especially develop during attacks of diarrhœa and dysentery. Under these conditions Lewis and Cunningham detected a comma bacillus resembling that described by Koch as peculiar to cholera Asiatica. A similar organism has been described in summer or sporadic cholera, differing in unimportant particulars from Koch's bacillus. If we would seek for the evolution of the true comma bacillus, let us go to the native home of the cholera in upper India. Here we find a native village among the hills, on the border of a lake, which supplies the inhabitants with drinking-water. During the rainy season the accumulated filth of the village is washed into the reservoir. In the dry and hot seasons the border of the lake is exposed to the sun and breeds micro-organisms, which are taken into the stomachs of the villagers over and over again until they acquire the necessary virulence to initiate an epidemic, which starts on its way around the world. The possibility of this conversion of the ordinary bacteria into septic forms is strongly advocated by Nägeli;* and Büchner, indeed, claims to have successfully evolved the bacillus of anthrax from the ordinary bacillus of hay-infusions (B. subtilis). Even though this claim should not be admitted, it must be acknowledged that there is a strong probability that infective bacteria have not always possessed their noxious qualities, but have acquired them somehow in the course of ages. It is quite evident, however, that the recognized varieties of pathogenous bacteria retain their properties with a certain tenacity, and this will explain why at the present time transformation of innocuous into noxious bacteria can occur but rarely and only under very exceptional and special conditions. P. Zweifel claims that the important condition is a deficient supply of oxygen.† In other words, even if the pathogenous bacteria do not represent biological species, they are apt to maintain the pathogenous forms for long periods of time.‡

The evolution of the specific element in yellow fever might be traced in a similar manner to that of the cholera bacillus.

The active agency in malarial intoxication is in all probability an instance of an ordinary microbic form becoming specialized under favorable conditions of temperature and soil, where animal and vegetable refuse is undergoing decay. The many attempts to isolate the bacillus malariæ, however, have failed to establish its specific identity. Comparatively recently Laveran has described a body existing in the blood of persons during the paroxysm of ague which is absent at other times. This has been confirmed by Councilman, of Baltimore, and Osler, of Philadelphia, who each affirm its great value in diagnosis. Since typhoid fever appears to succeed malaria in many communities, it is probable that the special bacillus of Eberth is likewise the result of the development of an ordinary zymogenic bacillus which has acquired specific properties from being kept for generations in contact with animal and vegetable refuse.

* Die Niederen Pilze, Munich, 1877, 1882.
† Zeitschrift für Physiologische Chimie Ph., No. xiii. p. 14.
‡ Ziegler, Text-Book of Pathological Anatomy and Pathogenesis, p. 314. American edition, 1887.

The investigation of the relationship of bacterial infection to disease brings us to the very important question of vital resistance. How can the human system be protected from being injured by the inroads of micro-organisms? Clinical experience has taught that by surviving one attack of most of the infectious diseases a change is wrought so that the system is proof against subsequent infection of the same malady. The disease may even be induced in a mild form, as by vaccination, or as in Pasteur's cultures of the micrococcus of splenic fever, and the vital resistance increased so as successfully to resist future attacks. It is believed that this is brought about by a process similar to acclimatization; the tissues becoming accustomed to the poisons generated by the bacteria, just as we see the organism becoming accustomed to the effects of other chemical poisons, such as nicotine, morphine, arsenic, or alcohol.* Some recent investigations seem to show that it is not necessary to introduce the poisonous bacteria themselves, but merely their chemical products, in order to obtain immunity from further infection. Chauveau claimed that vaccine lymph could be diluted one hundred and twenty times without losing its protective power; and it has been recently asserted that rabbits have been rendered proof against anthrax by injecting hypodermically a chemical solution, as predicted years ago by Toussaint and Paul Bert. It is a well-established fact that a course of quinine will enable a man to escape malaria, although exposed to the infection, and Tommasi-Crudeli, from experiments on workmen on the Roman Campagna, demonstrated conclusively the protective power of arsenic in the same manner. The therapeutic use is closely related to prophylaxis. If the experiments of Pasteur in hydrophobia may be accepted as establishing anything conclusively, it is that hydrophobia is curable by a chemical agent of the nature of a ptomaine derived from the spinal marrow of infected animals.

It is a fact believed to be established by experience that the daily use of sulphuric acid or alcohol during a cholera epidemic will prevent infection. This is not without consolation for those who fear infection from the ubiquitous tubercle-bacillus. Possibly the use of alcohol, so strongly advocated by Flint in incipient phthisis, may be a highly rational treatment, after all, for the prevention of tuberculosis.

Freire is conducting on a large scale an experiment by inoculating thousands of laborers with cultures of the micrococcus xanthogenicus; but if the same result can be achieved by some chemical agent, it would be a decided step in advance.

As a further result of these studies, it is very evident that the human body is prepared for all kinds of disease by unwholesome surroundings and bad hygiene. Parents living under such conditions have offspring that are ready to succumb to any disease on account of defective vitality.

Many children come into the world with the verdict "unfit to survive" stamped upon them. They furnish the great number of deaths from so-called cholera infantum during the first two years of life. Much of this, according to my view, is a necessary mortality on account of defective vitality. If they grow up, some organ which is especially vulnerable is constantly giving trouble by breaking down.

Dr. Budd called attention to the congenitally insufficient liver as a prolific source of bilious attacks and gout. Relative smallness of the heart and pulmonary artery, also congenital, is one of the recognized predisposing causes of pulmonary disease in later life. Weak digestive powers have great capacity for producing migraine, melancholia, and manifold miseries. Renal inadequacy, inherited or acquired, is the cause of lithæmia, headache, and nervous symptoms, as well as other physical disorders, such as eruptions on the skin.

The field of future medicine is therefore limited by the perfectibility of the human race. Disease exists because some families around us are in process of extinction and are more or less defective, while others, by reason of superior vitality, are building up types that are destined to survive in the struggle for existence. Statistics might be given to show what service has already been rendered by medicine in ameliorating the conditions of existence, lengthening average human life, and reducing the inroads of disease. The single operation of ovariotomy, it has been computed, has added thousands of years to woman's life; but who could compute the number of

* Prof. James Law, F R.C.V.S., ably defends this view in a paper on "The Rôle of Microbes and their Chemical Products in the Causation of Disease," *Journal of Comparative Medicine and Surgery*, August, 1886.

years given to humanity by the practice of vaccination or by the introduction of antiseptic methods into surgery?

In illustration of the benefits of the recent improvements in surgery in what is usually considered the field of medicine proper, I may cite the diagnosis and removal of intracranial growths, ten cases of which, with only two deaths, were reported by Mr. Victor Horsley during the past year, the removal of hydatid cysts from the lungs, as reported by Dr. Fenger, of Chicago, the resection of the ribs for chronic empyema, aspiration of the chambers of the heart for acute over-distention, the pyloric resections in cases of cancer of the stomach, and various operations upon the other viscera, which until recently were considered beyond the aid of art. Recently I had the honor of reporting a case of perityphlitic abscess to the College of Physicians of Philadelphia, in a man of twenty-six years of age, who had the operation of laparotomy performed, the abscess freely opened, and the diseased vermiform appendix amputated, followed by complete recovery in less than a month after the operation. In cases of acute perforation of the bowel in typhoid fever, Dr. J. C. Wilson, of Philadelphia, recommends opening the abdomen and treating the case as a perforating wound or acute obstruction of the bowels. If modern surgery has enlarged our therapeutic resources, it has also increased our ability to interpret symptoms, for which we are largely indebted to the labors of the skilful specialist. Hay fever is now understood to be a neurosis associated with nasal hyperæsthesia. Headaches are frequently caused by eye-strain. Some cases of bronchial asthma are demonstrably dependent upon nasal hypertrophies. Pelvic disorders in women are seen to be the true cause of much general ill health. Dr. S. W. Gross claims that similarly a pain in the back in the male may be caused by an over-sensitive urethra, and I have even noticed lately that Dr. Orendorff, of Louisville, goes so far as to declare that locomotor ataxia may be caused by urethral disease, and that the majorities of ataxics have stricture of the urethra.*

Dr. T. G. Morton, in a paper published in the *Philadelphia Medical Times* for July 10, 1886, has shown the true explanation of some cases of supposed lateral curvature of the spine, in the want of symmetry of the length of the lower extremities. Many cases of persistent pain in the back may be cured by simply elevating the heel of one shoe so as to make both legs of equal length.

Very much of the defective development of adults, I fear, is traceable to an undue amount of application required of children in school life. The ill effect of excessive brain-work upon the development of the teeth has been noted, but we are not in a position to estimate the impairment of other digestive organs, except by the frequency of indigestion among young adults. The book of nature is much more attractive to children than dead languages and doubly dead authors. Our children do not compare in their physical development with young savages. We are almost tempted to echo the wish of the laureate, to return once more to a state of nature, and rear a

"dusky race.
Iron-jointed, supple-sinewed, they shall dive, they shall run,
Catch the wild goat by the hair, and hurl their lances in the sun;
Whistle back the parrot's call, and leap the rainbow of the brooks,
Not with blinded eyesight poring over miserable books."

The introduction of physical exercises in higher colleges is well; but are they not more needed in the preparatory schools? It is an encouraging sign that the attention of the profession is turning again to gymnastics as a therapeutic measure. Dujardin-Beaumetz has recently delivered a lecture highly extolling the effects of kinesitherapy, as he styles it, in the treatment of many diseases, notably diabetes and gout. The Swedish movement cure is becoming better appreciated as it is better known by the profession. In many disorders well-regulated exercise is a necessity. Bouchardat used to insist upon his diabetic patients cutting their own wood, practising fencing, and other gymnastic exercises. Chomel said that they should digest with their legs. An important part of the celebrated Clemens treatment of diabetes was open-air exercise.

"Leb' mit dem Vieh als Vieh
Und acht es nicht fur Raub
Den Acker den du pflügest, selbst zu düngen,
Das ist das beste Mittel, glaub',
Auf hundert Jahr' dich zu verjüngen."

Mental strain is now recognized as a prolific cause of diabetes. In the treatment of such cases, the question of diet becomes less important than the adoption of a more

* Progress, 1886, p. 162.

natural course of life. It is also significant that the late Willard Parker, from his very great experience, gave it as his deliberate conviction that mental anxiety is one of the chief causes of cancer of the breast. Those twin jailers, iron fortune and lowly birth, with the ambition to get on in the world, are responsible for a large amount of sickness in the community. Many have no time to consider the question, "How shall I keep well?" since their whole mind is occupied with the problem, "How shall I get a living?"

We are forcibly reminded of the old physician in one of Balzac's novels ("*Cousin Pons*"), who declares, "I have spent my life in seeing people die, not of their diseases, but of that great and incurable malady, the want of money."

In this direction the community is in need of good advice. It should pay more attention to maintaining physical health by physical exercise. I have been struck by the fact that the large hospitals, as a rule, have no means for systematic exercise as part of the treatment; the patients spend their time in absolute idleness. Every hospital should have its gymnasium. Massage is becoming more used in this country with decided advantage to patients. It is not in America, as yet, used regularly to any extent in health, as it is in Japan, where it is very popular under the name of the "body-regulating art." Dr. Norton Whitney, of Tokio, wrote a letter to the *Philadelphia Medical Times* some years ago, on the "Employment of the Blind in Japan," in which he recommended teaching massage to the blind in this country as a means of earning a livelihood. We hope to see this adopted; the demand will increase with the supply. One or more practitioners of massage should be attached to each hospital in the land.

While on the subject of constitutional weakness, let me say that a prolific source is the inability of mothers to nurse their infants, and the inevitable resort to the various forms of infants' food. I have lately noticed that by the application of faradism to the mammary glands after confinement, the flow of milk can be induced. Not only this, but the novel statement is made that a flow of milk may be induced in the breasts of virgins by the same means. This affords a source for an unlimited supply of wet-nurses, with a corresponding reduction in the consumption of various baby-foods, and possibly also a marked decrease in the mortality from "teething" and "summer complaint."

One of the most hopeful evidences of advance in medicine is the growing appreciation of the work of the general practitioner. There are signs of a healthy reaction against the dogmatism of the laboratory and the arrogance of a narrow specialism. Professor Leyden, as president of the recent German Congress of Internal Medicine at Wiesbaden, has well defended this view. He says, "The present age is scientific and experimental, and medicine has partaken of the general tendency, and has become an experimental science. But the scientific and experimental work in the laboratory, upon which so much weight is placed, and which has unquestionably contributed to exactness in our knowledge, fails to answer the demands of the present, however much it may promise for the future. The living present has claims which the physician must not overlook in his zeal for mathematical exactness in diagnosis and mechanical treatment. It is time to remind the practitioners of our day that the inexhaustible source of all knowledge and progress in medical art is observation at the bedside of the patient. Experiment is one-sided, complete knowledge of disease can be gained only by studying cases." "The true function of medical art is not to treat diseases, but to treat persons who are sick." The study of the individual needs of the patients under our care, in order to adapt our remedies to their requirements, is the path by which Hippocratic medicine has advanced and must continue to advance. It was this that led Paré to substitute the ligature for the cautery for the relief of hemorrhage on the field of battle, which led Hunter to tie the artery in its continuity for the treating of the case of the coachman with popliteal aneurism, that led McDowell to perform ovariotomy, or Sims to his operations upon conditions which hitherto were beyond the reach of medical art. Thus it is that the general practitioner fulfils the dictum of Hippocrates: "Medicine consists of addition and subtraction—the subtraction of that which is redundant and the addition of what is deficient, and he that does these things best is the best physician, and he that is most removed from this system is the most removed from a knowledge of the art."

ORIGINAL COMMUNICATIONS.

REPORT ON THE PROGRESS OF OTOLOGY.

BY CHARLES H. BURNETT, M.D.,
Professor of Otology, Philadelphia Polyclinic.

CYSTS OF THE AURICLE.

DR. H. SELIGMAN, of Frankfort-on-the-Main, publishes a short account of the occurrence of a cyst in the auricle, which he considers corroborative of the views advanced by Hartmann, some time previous, in the *Archives of Otology* (*Archives of Otology*, vol. xvi. p. 41, 1887).

Mr. W., 35 years old, with sound intellect, applied to Dr. Seligman in May, 1885, for relief from a swelling of two months' duration, in the usual situation of an othæmatoma, between the upper portions of the helix and the anthelix of the right auricle. The skin was very tense and somewhat hot. The swelling was the size of a walnut, round, tense, smooth, and not tender to the touch. The rest of the cartilage was normal, and traumatic influences could be positively excluded. The patient would not consent to an incision. The tumor was therefore tapped by means of a Pravaz syringe, and about three cubic centimetres of a thick, transparent fluid, of a light yellow color, was drawn off.

The point of puncture was then covered with a piece of adhesive plaster, and the pinna being padded with cotton, a bandage was applied. There was a slight reaccumulation of the fluid, but subsequently the ear assumed a normal appearance without further treatment.

The morphological elements contained in the fluid were mucous filaments, some white and a few red blood-corpuscles. This circumstance, in connection with the absence of pain and traumatism, and the good general health of the patient, renders it likely that this was a cyst and not an othæmatoma. In regard to treatment it is suggested that multiple punctures be tried in preference to incision, the latter being resorted to if the former fail.

THE CAPACITY OF THE AUDITORY CANAL.

Both Von Troeltsch and Kirchner have placed the average length of the auditory canal at twenty-four millimetres. The latter dimension has been placed at twenty-four and four-tenths millimetres by Bezold, the minimum being twenty-one millimetres, and the maximum twenty-six millimetres. But no one has, so far, endeavored to determine the capacity of the auditory canal. Dr. Hummel, of Munich, has, however, made a long series of examinations, two hundred in all, upon soldiers between the ages of twenty-two and twenty-four, in order to determine the capacity of this important canal, both in health and in disease. (*Archiv für Ohrenheilkunde*, Bd. xx. pp. 263–299, May, 1887.) The average capacity of the normal right auditory canal is one and seven-hundredths cubic centimetres; of the left, one and five-hundredths cubic centimetres.

Pathological cases—viz., otorrhœa with perforation of the membrana tympani, upon one side, with intact normal ear upon the other—furnish marked differences in cubic capacity. Thus, the healthy side may have a capacity of one and six-tenths cubic centimetres, while the diseased side may have a capacity as high as four and two-tenths cubic centimetres.

By a comparison of such differences in a given case, some idea can be formed of the extent of the destructive process, and the author claims to have pointed out a new diagnostic means.

CHRONIC PURULENT INFLAMMATION OF THE TYMPANIC ATTIC.

Dr. H. N. Spencer, of St. Louis, Missouri, having several cases of attic disease under treatment, has contributed a short paper on their nature and treatment. (St. Louis *Courier of Medicine*, May, 1887.) Chronic purulent inflammation of the attic may be limited to this cavity or be associated with a similar process in the atrium. It may have had its origin in the attic or have resulted from extension of inflammation. Dr. Spencer has not observed any special tendency on the part of attic disease to pass into mastoid disease. This conclusion is based on eighteen years of experience with aural remedies. "We have not infrequently, in the course of a purulent inflammation of the middle ear, especially in its exacerbations, indications of mastoid cell disturbance. Sometimes there is considerable pain, with tenderness upon pressure behind the ear, and external redness and swelling. These symptoms may be present to an alarming extent, and will disappear with no special attention being directed to them beyond a continuance of care for the middle-ear trouble,

except that I am in the habit of prescribing a few grains of calomel under these circumstances in combination with quinine. I have known repeated recurrences, all finally yielding to improvement in the general health and the bettered condition of the tympanum." Subsequently a further very pertinent allusion is made to mastoid disease in general: "Either diseases of the mastoid are of less frequent occurrence in the West than in the East, and less in this country than abroad, or perforation of the mastoid process is often unnecessarily performed, and an overweening desire to add to a number of operations magnifies the subjective and objective indications for surgical interference, and prejudices the otherwise good judgment of the operator. I make this statement with some hesitation, but from a conviction of the truthfulness of it so far as *my experience* has gone, founded upon upwards of twenty-five thousand cases of ear-disease seen in private and hospital practice."

Pathology.—There are said to be two forms of purulent inflammation of the attic, one characterized by swelling and a tendency to proliferation and organization of tissue, and the other by a thinning of tissue, or tissue-waste. The opening through which drainage takes place is in Shrapnell's membrane, or the flaccid membrane of the tympanum, that portion above the folds of the membrana tympani. In the first-named form, the hyperplastic, the edges of the perforation and the surface of the cavity beyond are red and swollen. Sometimes there are found villous projections, papillary growths, and even large polypi. In the second form, that of tissue-waste, the edges of the opening in the membrane are thin and white, and the tissues in the attic beyond have the same appearance. The discharge is often scanty, and dark brown in color. It may even harden into a black mass, assuming the shape and mould of the cavity, a slow process of waste going on beneath. This second form is considered by Dr. Spencer to be the more intractable of the two, and more likely to result in caries of the bone. The head of the hammer first, and next in point of frequency the head of the incus, are liable to become affected by carious action.

Treatment.—It is recommended in those cases of suppuration of the attic that present polypi or polypoid masses to operate for their removal at once, and to curette the mass or masses as high up as it is possible to do so. An anæsthetic may be employed or not, as seems necessary. Immediately after the operation Dr. Spencer employs a saturated solution of nitrate of silver, "which, being taken up on a tightly-twisted bit of cotton, projects one-sixteenth of an inch beyond the point of the holder, and, bent at a right angle with the shank, is passed over the margin of the plate and carried well up into the cavity." It does not seem necessary to neutralize this, but to dry the parts well with absorbent cotton to prevent excess of the fluid. The operation and the caustic are to be followed by the application of absolute alcohol or a saturated solution of boric acid in absolute alcohol, by instillation. It is to be understood that during this course of treatment the ear is to be kept very clean. The discharge is usually quite abundant.

In the second class of cases the treatment is different. In this form of disease atrophic processes are to be combated by a stimulating method. Here peroxide of hydrogen is employed, being slightly stimulating and somewhat disinfecting. Nitrate of silver is also advised, but all stimulation must be mild. The pus-cavity can be cleansed with the tympanic syringe, but not too frequently, as the repetition of this method at short intervals is prejudicial to speedy healing. The form of cotton-holder is of importance, steel being the only efficient kind. The shank must be slender, and the point unnotched. The point can be improved by subjecting it to acid.

CHRONIC CATARRHAL INFLAMMATION OF THE MIDDLE EAR.

Dr. Albert H. Buck, of New York (*Medical Record*, January 1, 1887), has contributed a paper on this subject, representing his conclusions as to the seat, the cause of this disease, and also its treatment, based on personal observations of cases during the past fifteen years. Formerly attention was directed chiefly to the Eustachian tube and middle ear, while the pharyngeal vault was overlooked, and he might have added the nares too. Now the pharyngeal centre is considered more important, and to it treatment is directed. The causes are manifold and complex. Cold in the head, the metabolic processes of assimilation

and metamorphosis, tobacco-smoking, climate, clothing, hygienic mistakes in either too much or too little ventilation of apartments, by day and by night, and finally the retention and inspissation of secretion in the crypts of the tonsils. It is recommended to explore these half-dozen crypts wherever the tonsils are found enlarged and show a tendency to congestion. For this purpose a slender ring-shaped curette of steel, with nicely-rounded edges, may be used both to explore and cleanse the crypts of foul-smelling, cheesy matter. After that the cavities should be syringed with listerine and water, one part to two or three of water.

If sclerosis of the mucous membrane in the drum-cavity and stiffening of the bones have not occurred, but if the disease is still in the hypertrophic and hyper-secretory state, it is reasonable to hope for benefit from treatment. Pains must be taken to find out whether the case is made worse by tobacco-smoking or undue exposure to draughts of cold air during sleep, or whether the disease "owes its chief activity to a lithæmic diathesis." One or two cigars a day may be allowed. No cold draught should be allowed to fall on the head while sleeping; but opening of all the windows of the sleeping-rooms in cold weather seems too rigid a course of management of chronic aural catarrh. The lithæmic taint must be overcome if the local treatment is to have a good effect. The amount of food must be carefully inquired into, and also the daily exercise. A full-grown man should get at least four miles of walking in the open air daily. Coffee, pastry, and all alcoholic drinks must be abandoned. "A warm bath every night, followed by brisk rubbing with a coarse towel, will stimulate the skin to perform its emunctory functions with increased vigor."

In the local treatment chief reliance is placed upon nitrate of silver and tincture of iodine applied to the naso-pharynx, because they are "the most efficient remedies known, in respect to their power to diminish undue vascularity, infiltration, and hyper-secretion of a highly glandular mucous membrane." Nasal sprays do not seem to enter largely into the methods employed by Dr. Buck, although he has succeeded in relieving tinnitus aurium by a spray of listerine and water, one part to three.

AURAL DISEASES FROM MALARIA, AND AUDITORY DISTURBANCE FOLLOWING THE USE OF SULPHATE OF QUININE.

There are few subjects more difficult to study than auditory diseases caused by malaria, and there is constant confusion between the phenomena due to malaria and those due to the administration of the sulphate of quinine. Weber-Liel's work on this subject is both the oldest and the best. He holds that the paludal poison may affect the ear in two ways,—viz., by an inflammatory process, and by a non-inflammatory process (otalgia intermittenta). In both cases it is the third branch of the trigeminus in the tract in which occurs either a paludal neuralgia or vaso-motor disturbances leading to inflammation.

Ferreri (*Annales des Maladies de l'Oreille, etc.*, May, 1887) has made a recent study as to what part in the production of aural diseases may be ascribable to malaria, and what to quinine. He therefore gave large doses of quinine to thirty patients suffering with malaria, but unaffected in their ears. The subjective symptoms following the drug manifested themselves four hours after its administration, but in no case was there pain in the ear, and in twenty-four hours all subjective symptoms had disappeared. Again, in the Roman Campagna, where malarial diseases are so numerous, affections of the ear are rarely seen. In four thousand five hundred and seventy-four cases of ear-diseases observed in the otological clinic of Rome, between the years 1874 and 1886, only eight cases of malarial otitis were recorded. According to Ferreri, the acoustic nerve and the sensitive nervous branches of different parts of the ear are chiefly attacked, in chronic malarial cachexia, in the form of neuralgias more or less intermittent.

Quite an intense hyperæmia of the middle ear, with serous effusion into the membrana tympani, without ulceration of that membrane, is met in cases of acute malarial infection. The chief symptom thus induced is an intense boring pain, recurring at regular intervals. It is probable that in such instances the chief anatomico-physiological lesion is an irritation of the tympanic plexus. These lesions are characterized by (*a*) absence of suppuration, and (*b*) ready cure by means of quinine. Aural maladies from malarial poisoning are very rare in children.

A CASE OF NUTMEG-POISONING.

BY JOHN GILLESPIE, JR., M.D.

MRS. M., the mother of seven children, finding herself again pregnant, and acting under the advice of a friend, procured five nutmegs, grated them down, diffused them in warm water, and took the whole at one dose when just about to retire for the night.

Soon afterwards she fell asleep, and was awakened by one of her children crying, when she arose and walked steadily to the bureau to get a glass of water for the child, but on reaching the bureau found that she was unable to grasp the glass containing the water firmly enough to carry it.

On attempting to return to bed she staggered, and, on reaching the bed, fell on it rather than got into it. Until this time there had been no unusual sensations. In a few minutes her head began to ache and her face began to tingle and itch, and she "felt as if her head was turning around and around."

By this time the patient's husband had been aroused, and he noticed that his wife's face was very much flushed, and that she was bathed in perspiration.

Nausea now became very distressing, and the patient complained that her head and face "were swelling." For several hours these symptoms continued, with the addition of frequent and copious micturition.

When I reached the house, five hours after the symptoms first appeared, and about six hours after the nutmegs had been taken, I found the woman in the following condition: the face was very greatly flushed and swollen; the pupils were contracted but sensitive; the heart was pulsating at the rate of 130 a minute; the pulse was of fair strength and volume; nausea was very great, but there was no vomiting; there was no abdominal pain, nor did firm pressure over the abdomen cause any pain. The patient was perspiring very freely, and complained bitterly of frontal headache and of vertigo. There had been no purging.

I immediately administered an emetic of sulphate of zinc, gr. xxx, and awaited developments. In a few minutes the zinc produced emesis, and among the rejected matter were many particles of the grated nutmeg.

The emetic appeared to relieve the headache and vertigo, and the woman was much more comfortable for more than an hour, when, without any warning, there was sudden failure of the circulation, and all the signs of collapse came on. The face became pallid, the pulse very rapid and weak, the respiration hurried, and the patient's countenance betokened great anxiety.

Under the use of five-drop doses of spt. ammoniæ aromat., well diluted and frequently repeated, color returned to the face, the pulse became stronger, the respiration natural, and there were no further symptoms to cause alarm, and after a day in bed the patient was practically well, although the headache and the œdema of the face continued for several days, a small dose of castor oil completing the treatment.

By taking other nutmegs which were in the house and weighing them, I estimated that the weight of those taken by the woman was fully five drachms and a half.

The peculiar features of the case to me were the absence of abdominal pain and the fact that there did not appear to be any narcotic effect produced, as there was at no time any tendency to drowsiness.

The reason for using such a small dose of the aromatic spirit of ammonia was to guard against aggravating any tendency to abdominal or gastric irritation.

1434 South Broad Street, Philadelphia.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF JOHN H. PACKARD, M.D., ONE OF THE ATTENDING SURGEONS OF THE HOSPITAL.—RAILROAD CRUSH PRODUCING VENTRAL HERNIA—DISLOCATION OF RIGHT HIP JOINT—INCIPIENT ŒSOPHAGEAL STRICTURE, PROBABLY FROM EPITHELIOMA—CASES OF SUPRA-PUBIC CYSTOTOMY—OPERATION OF EXSECTION OR EXCAVATION OF ASTRAGALUS.

GENTLEMEN,—The man before you was caught last Monday between the bumpers of railway-cars. Fortunately, the effects of this crush were not very disastrous, and it was only on last evening that he presented himself at this hospital for treatment. You will notice quite extensive ecchymosis, widespread over the whole of the left lateral surface of the abdominal walls. Being now many hours old, this ecchymosis presents all the varied mixture of tint and shade and color of the "autumn leaf," and from the

same radical causes,—viz., it is due to the last pigmentary changes in the coloring matter of the blood before finally being partly absorbed.

On the man being directed to restrain his breathing, and again on being told to cough, you note first a large flattened swelling of the left groin, and then a decided impulse given to my hand and fingers, which are in close contact with the protruding surface.

Tracing this protrusion as to its boundaries, I find that its axial centre is above "Poupart's ligament," to the right of the anterior superior iliac spine, to the left of the outlined edge of the left rectus muscle. It is a true "ventral hernia." The crushing force of the injury lacerated the walls of the abdomen in their middle portions; the peritoneum remained intact, as well as the external covering of integument, but the muscular walls of the abdomen were thoroughly torn apart, thus permitting the contents of the cavity to push forward into this flattened but large ventral hernial sac. Here, by the way, let me say that umbilical hernia, which is frequently congenital, may exist at the umbilical ring or through the abdominal walls, and appear in the same locality, but there is a great difference in the two conditions.

As to treatment of the case before us, nothing more may be hoped for but that a properly shaped and sized pad with raised edges, held by a suitable truss and worn by the patient indefinitely, will result in the remote possibility of a reunion of the lacerated muscular and cellular tissue, and the formation of a hard cicatricial mass.

Case II.—This colored man, who is not only aged in appearance, but really older than he seems, was the sufferer on Tuesday last from a falling pier of masonry in a cellar-excavation, dislocating his right femur. On admission his aged look warranted the diagnosis of a fracture of the femoral neck, but on examination the case proved simply one of luxation of the head of the femur backward on the dorsum of the ilium. After etherization, I made use of manipulation, bending the knee, flexing the thigh upon the abdomen, and forcibly rotating the whole limb while abducting it. The head of the femur, however, while moving readily towards and around the acetabulum, refused to enter its old socket, and I was about having recourse to the pulleys as a means of extension, when in their stead I adopted the following means, which were successful. The patient lying on a folded blanket on the floor, and I sitting on a chair at his right side, I slung his knee of the injured side over my right knee, and had traction made on his foot, while his pelvis was firmly held down. Thus I got a very effective extension made, which in a few moments was successful, the head of the bone slipping into the socket with an audible snap. I think that some of the thickened ligamentous bands connecting the femoral head and neck with the spinous process of the ilium had acted as a bridle-like impediment to the entrance of the head into the socket, but when extension had been forcefully made in the above gradual manner there was a speedy restoration of the articulating surfaces.

Case III.—This colored patient complains of a slight dysphagia. I select a large, olivary, ivory-headed flexible probang, and will now pass it well upward and backward against the roof of the mouth, soft palate, rear of pharynx, and finally behind the epiglottis, and while he makes an effort at swallowing, I now pass it down the œsophagus into the stomach. On withdrawing it slowly, I find that just at the upper part near the pharynx there is a slight constriction, which in this case is probably epitheliomatous in character. It is best in these cases, as in those of stricture of the urethra, to use the largest available instrument, lest injury should be done to the mucous membrane; and all force should be carefully avoided, either in the introduction or in the withdrawal.

Case IV.—The next case, also a colored man, represents not only itself, but also another patient, a white man, older, and in a more serious plight, in both of which we have this week performed supra-pubic cystotomy.

These are cases of great interest to me, both by reason of my experience in at least twelve others of like character, and on account of the objections which have been urged against the operation. These objections, as I shall demonstrate to you, are of no weight provided the procedure is made with proper precautions and in the light of nineteenth century surgery. In both cases, which entered the hospital within a period of thirty-two hours, there was inordinate distention of the bladder.

There had been the usual futile attempts made at catheterization, there had been a forceful pushing at and "ploughing up" of the enlarged prostate gland in both, followed by the usual hemorrhage, pain, anxiety, and shock. One case also was suffering with double inguinal hernia and double hydrocele.

In both cases we made the usual incision through the integument an inch and a half in length above the pubes. If the incision be made low and near the pubes, on the emptying and shrinking of the bladder the parts are sure to be drawn asunder, and the danger of infiltration of urine into the post-pubic cellular tissue is much increased. After dividing the subcutaneous fat, which in some cases may be more than an inch in thickness, we reach and consecutively sever the aponeuroses of the abdominal muscles and the pyramidales, and reach the enlarged and distended bladder.

Lifting this with tenaculum, or, as I prefer, with a stitch of ligature, we puncture it either with a trocar and canula, or simply with the tenotome, afterwards enlarging the opening with a probe-pointed bistoury. In place of a canula of metal some use a glass tube, which, being left in place, is not so rapidly fouled as the rubber or metallic tube. In using the tubes a portion of elastic caoutchouc cloth, or "rubber dam" of the dental profession, may be slipped over the end of the tube, thus making a perfectly cleanly water-tight covering for the parts, between which and the abdomen may be a little lint, and in front of which may be placed an amount of absorbent cotton to retain the urine as it flows. In the cases now before us I used the rubber tubing, which enters the bladder, and then is passed across the iodoformed surface under a pad of cotton bandage around the loin to the urinal bottle, thus draining away all the flow.

The colored man before you, as you will observe, and as you notice from the temperature-chart, has been progressing excellently.

The other, who is an older and less healthy subject, is not doing so well. His urine contained quite a serious amount of albumen; he has contracted kidneys, and his uræmic condition and fluctuating temperature seem to portend a serious termination. He, an older man, and with greatly enlarged prostate, has been subjected to more injury from the attempts at forced catheterization. There is also in this, his urine, discoloration due to blood, which may be from the wounded prostate, and the inflamed and contracted kidney as well.

In supra-pubic cystotomy we need never fear the presence of the fold or pocket of peritoneum, as the more enlarged the bladder is by its enforced distention, the higher rises the peritoneal fold before it, so that it lies above and out of the line of puncture.

Case V.—I now will proceed to excavate and resect the astragalus in the youth who is here etherized before you.

In the case now before you you observe synovitic tenderness, and swelling around the ankle; the jerking, painful contraction of the muscles, which has been explained by Hilton as caused by the same nerves which supply the muscles, also sending filaments to the joints themselves, thus keeping up irritation and motion, which mutually react upon and increase each other indefinitely. I make the same curved incision on the exterior of the right foot, and near to and parallel with the peroneal tendon, as you saw me do a week ago; now I, with blunt knife, elevator, lenticular knife, gouge-forceps, and curette, will scrape, break, crush, and remove all the deteriorated, friable, softened astragalus, avoiding the posterior tibial artery carefully, and, as I bring out the articular smooth surfaces of the astragalus, I know that the disease is entirely removed.

I now pack the wound with iodoform lint, and suture the structures together, excluding the peroneal tendon, with the catgut. A moulded anterior zinc splint, well stuffed with cotton, is placed upon the upper padded surface of the limb. With antiseptic dressings, in a few weeks this youth will most probably recover, with a foot and ankle but very little deformed or impaired in motion.

GONORRHŒA TREATED BY ALKALINE INJECTIONS.—Castallan, of St. Mandrier Hospital, recommends a one-per-cent. solution of sodium bicarbonate for urethral injection, and reports twelve cases successfully treated. His theory is that the bacilli of gonorrhœa can flourish only in an acid medium. He claims that the injection prevents the growth of the bacilli, rapidly reduces the discharge, and diminishes or removes the pain in micturition.—*Medical Press and Circular.*

TRANSLATIONS.

On the Sensibility of the Tympanum in Perceiving the Direction of Sound.—When a sound strikes the ear, we locate its source in that point of the horizon towards which the external opening of the organ happens to be directed at the moment of the most intense auditive sensation, and we exteriorize the sensation, attributing its cause to something exterior to ourselves. We thus acquire at once the notion of exteriority and the direction of the body producing the sound.

How is this result obtained? As regards the knowledge concerning the side by which the sound comes to us, this is furnished by the auditive sensation on the right or the left, and also by the consciousness of the muscular efforts to perceive,—efforts which are made to find the maximum auditive sensation indicating the shortest distance between the source of the sound and the ear which listens. But it was necessary that this effort to perceive should itself be guided: so we find that the sensibility of the skin of the pavilion of the lateral portions of the neck, and of the face, brought into play by the sound-wave, also gives indications as to its direction. This is the opinion of distinguished physiologists, such as Weber, Schneider, and Voltolini. Hartman and others go further; according to them it is to the sensibility of the tympanic membrane that the notion of exteriority of the sensation of sound must be attributed. The cutaneous surface of this septum, being struck by the sonorous current, is said to give the sensation of the shock of the sound-waves, and thus the sentient being is notified of the direction and of the source of the sound. Nobody has denied these allegations; but, like Béclard, many thought that the effort to perceive direction was better explained by the consciousness of the movements of the head and of the body in seeking for the maximum intensity of the sound. Dr. Gellé purposely omits examining the part which the pavilion plays as a screen in this effort to perceive direction, and which has been so well brought into evidence by Küss and M. Duval.

The author was able to study this subject and, he thinks, to resolve the problem on two patients in Professor Charcot's ward. The part which the sensibility of the tympanic membrane plays appears very clear. The first patient was a man suffering from general anæsthesia of the skin, with trembling and want of co-ordination in walking, but whose intellect, as well as his sight and hearing, had remained intact.

The anæsthesia was so perfect that a piece of ice placed in the hollow of the ear produced no sensation whatever; the organ remained likewise insensible to ether-sprays or to the infliction of deep wounds made with the point of a needle. Both drum-heads were touched with a needle while the effect was observed by means of a mirror and a speculum. It was found that the membrane might be touched and pricked without the patient's perceiving the least sensation either of pain or of contact; on both sides the anæsthesia was complete. The patient's audition was good, and he heard and replied perfectly well whether he were spoken to by any one in front of him or behind him. Here, then, was a proper case for the study of the sensibility of the tympanum in the perception of the direction of sound.

Placing himself behind the patient, M. Gellé directed him to close his eyes, and then held his watch within a few inches of his right, and then of his left ear. The patient replied that he heard the ticking, but when asked on which side, he found it impossible to say with his eyes closed. The experiment was repeated several times in the presence of M. Charcot, and always with the same result. It may be permitted to conclude that the sensibility of the tympanum plays a serious part in the effort to perceive the direction of sound. In the ward were found several other patients suffering from general anæsthesia. M. Gellé pursued his inquiries upon them, and found that every time a patient could distinguish on which side the watch was placed the membrane retained its sensibility. It is therefore evident, he concludes, that the sensibility of the tympanum is brought into play by the vibratory current, and out of this grows the sensation of exteriority and that of the direction of the sound.

Muscular Contraction and Animal Heat.—At a recent meeting of the Biological Society, M. Quinquaud described the result of his experiments on muscular contraction and animal heat. It is well known that since the beginning of this century animal heat and muscular contrac-

tion have been carefully studied. Many points still remain obscure: it is therefore desirable to provoke with facility and to vary at will the production of heat in a living being.

Here is an experiment which answers to this desideratum. By the aid of an induced current of which the intensity was determined, the muscles of a dog's leg were stimulated twice every second during three-quarters of an hour. After from five to six minutes' stimulation, the rectal temperature began to rise; the rapidity or slowness of the increase of heat varied within certain limits according to the species of animal. The animal was considerably excited; its respiration increased; from twenty-two a minute it rose to one hundred and twelve and one hundred and twenty; it became irregular after the cessation of the current. The animal was muzzled, but breathed easily through the mouth and nostrils.

M. Quinquaud made another experiment, which is as follows. A dog of twelve kilogrammes, with a rectal temperature of 39.4° Cent. (102.6° Fahr.), was submitted to electrization during thirty-five minutes. After an interval of twenty minutes the thermometer marked 41° (105.8° Fahr.). The respiration was increased to 108 during the electrization, and afterwards the dog was in a panting condition, as it might have been after a long run; the electric stimulation was continued during three-quarters of an hour, but after its cessation the animal continued to pant violently; death ensued two hours after the beginning of the experiment, with a temperature of 42° (107.6° Fahr.). The venous blood on the side which had been subjected to electric stimulation contained 0.70 gramme of glucose; the side which had not been subjected to this influence contained 1.20 grammes of glucose.

In a second experiment, a dog weighing seven kilogrammes, rectal temperature 39.7° (102.9° Fahr.), the muscles of the right leg were submitted to electric stimulation. At the outset the animal passed urine and excrement. This urine was obtained for analysis. Fifteen minutes afterwards the rectal temperature was 41.1° (105.9° Fahr.); twenty-five minutes later it became 41.7° (106.5° Fahr.); the respiration was 112, the agitation moderate; the electric stimulation lasted half an hour; the dog remained in a panting condition during the whole evening, as if it had run in a fierce sun. The experiment was made at 11 A.M.; the next morning the animal had recovered. Venous blood on the side subjected to electric stimulation contained 0.75 gramme of glucose; on the other side 1.15 grammes of glucose.

The third experiment was on a dog weighing six kilogrammes, which had been already subjected to several electrizations, with a normal rectal temperature of 39.5° (102.7° Fahr.). At 10.38 A.M. the electrization was begun, and at 10.48 the rectal temperature was 39.9° (103.1° Fahr.); at 11.2, 40.1° (104.1° Fahr.); at 11.35, 40.7° (104.7° Fahr.); and at 12 o'clock, 41.4° (106.2° Fahr.). In this experiment the increase of heat was slow; the temperature increased progressively, as in the other experiments; the animal remained in a panting condition for seven or eight hours, and ended by recovering itself; but if the experiment had been continued, it would doubtless have succumbed.

These experiments are interesting by virtue of the following considerations. It is curious to see a localized muscular electrization engender a condition of general hyperthermia; the possible cessation of life some time after electrization; death resulting partly from the increased heat; the greater destruction of saccharine matter on the side where the artificial muscular contractions were produced; and the possible therapeutic applications in cases of refrigeration. It is an experiment easily repeated.

M. Quinquaud, at a future meeting of the Biological Society, will indicate the disturbances caused in the different functions of the organism and the mechanism of death.

PERILS OF SCHOOL-LIFE.—M. Lagneau presented to the Academy of Medicine a report upon cramming of young children at school and the evils which it has in train, and concluded by declaring that the "Academy of Medicine calls attention of the public authorities, the Ministers of Public Instruction, of War, and of the Navy, to the utility of opposing the intellectual cramming and sedentary life in schools, and to the necessity of modifying the course of instruction so as not to burden the minds of young children."—*La France Médicale.*

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EDITORIAL.

SEA-AIR AND SEA-BATHING.

AS, year by year, the popularity of our sea-side resorts steadily increases, the problem of how to get the most benefit to health from a visit to the sea-shore becomes of more general interest. It is quite evident, from the habits of the people, that public opinion has not as yet crystallized upon this subject. It would be a matter of surprise, were it not one of common observation, that, among those who leave home in ordinary health to spend a few weeks in recreation at the shore, attacks of sickness are so common. In a small hotel it was recently noticed by an odd coincidence that seventy persons were sick at one time with diarrhœa or symptoms of summer cholera. In the case referred to, as in most summer-resorts with any claims to respectability at the present day, due attention had been paid to the drainage and water-supply. Moreover, the fact that the disorder referred to was not confined to one locality, but was general, points to a wide-spread cause. It is customary to ascribe such attacks to bad drainage, since so many sad illustrations have been furnished of disease and death due to criminal negligence of sanitary precautions; but attention has been directed to this with such force and persistency that a better state of affairs has been brought about, and most American summer hotels may now with reason be termed health-resorts.

A potent cause of such attacks at present seems to be in the habits of the people. The association of a large number of persons, like Mr. Gilpin, "on pleasure bent," inevitably leads to a constant round of excitement, which affects the equilibrium of the nervous system and reflexly tends to impair nutrition. The change of air and scene stimulates the appetite, while the abundance and variety of the fare tempt to over-indulgence at the table. Bathing is often undertaken too soon after eating. In consequence, digestion is interfered with, the blood is driven from the periphery to the internal organs, and the mine is laid for an attack of acute gastro-intestinal indigestion, with prostration, vomiting, and purging,—making a colorable imitation of an attack of cholera morbus. Moreover, bathing, fishing, and crabbing, often with both the direct and reflected rays of the sun beating upon the unprotected head and shoulders, may cause a severe meningeal congestion, or possibly sunstroke, particularly if there has been, as is very often the case, more or less indulgence in alcohol.

The active factors in the use of baths at the sea-side are summed up by Leichtenstern as follows: 1, the cold bath; 2, the salt contents of the water; 3, the motion of the water and the force of the waves; and, 4, the important factor of sea-air. As the cold baths cause a propulsion of blood to the internal organs, they should not be used by persons subject to hemorrhages of any kind: this explains the tendency to attacks of apoplexy during or after the bath. Very anæmic and lean persons do not bear cold baths well, on account of their deficient heat-making power. Such persons are much benefited by the heated sea-water baths, or by sponge-baths. In anæmic subjects with a good supply of fat, suffering with irritable weakness or nervous dyspepsia, the sea-baths are decidedly curative; as they are also in scrofulosis of the pasty types. Patients suffering with nervous disorders of various kinds have received much benefit from sea-bathing; but it is doubtful if greater benefit be not obtained from the climato-therapeutic effect of staying at the sea-side. Consumptives of a nervous type

sometimes are greatly improved by the climatic influence; but if there is a decided catarrhal element present in the case, dyspnœa may be caused by the dampness of the air. Such cases should not be sent to the sea-shore, but to the mountains. Whether sea-bathing is permissible in pregnancy or not is dependent entirely upon circumstances,—the force of the waves, the temperature of the water, and the personal equation,—and no rule can be laid down other than the general principle that proper caution should be observed to prevent shocks or violent exercise.

In order to obtain the most advantage to health from a visit to the sea-shore, we would advise that the advantage of obtaining good rest at night, as a result of the comparative coolness and the sleep-inviting air, should be more highly appreciated, and that a regular hour for retiring be observed. A light breakfast, with little, if any, meat, is a good beginning for the day. Bathing should be undertaken only after a sufficient time has elapsed for the digestion of the last meal,—this would require probably at least three hours,—and at first the duration of the bath should not exceed twenty or thirty minutes. It would be advisable for those who are not very strong to postpone the sea-bath for several days or even weeks after their arrival, and confine themselves to warm baths or sponge-baths. It would certainly be wiser for invalids who resort to sea-bathing as a therapeutic measure to do so only under medical advice.*

Those who are wise enough to lead a well-regulated life at the shore will, with few exceptions, derive vigor and increased powers of resistance to disease from their vacation; those who are irregular and careless will generally return in poorer physical condition than when they left home, and with the conviction that the sea-shore does not agree with them.

* A litt'e book by Dr. Packard, of this city, contains much useful information upon this subject. It is entitled "Sea-Air and Sea-Bathing." Published by Blakiston, Philadelphia, 1880.

THE TREATMENT OF CONTRACTED KIDNEY.

DROPSY no longer claims a place among diseases in our text-books, as it did in those of a preceding generation of physicians, the attention of the modern therapeutist being directed to the physical causes of this condition, and his skill is shown by his well-directed attempts to correct the disorder of the circulation which gives rise to the anasarca and serous effusions. In the management of that large class of cases in which crippled kidneys play a prominent rôle, it has been found by experience, moreover, that hygienic and sanitary considerations are relatively more important than the selection of particular remedies which have been thought to be more or less "indicated" by the disease.

Nothnagel, in a recent clinical lecture,† has pointedly directed attention to the fact that of the remedies made use of in *morbus Brightii* a great portion is given quite uselessly. In particular does he advise caution in the use of digitalis in contracted kidney, since an injudicious increase of pressure in the arterial system may produce rupture and cerebral hemorrhage. The therapeutics of chronic contracted kidney with granular atrophy is limited to intelligent dietetic measures, the leading principle of which should be to maintain normal diuresis. Since diuresis partially depends upon the tension of the artery, the cardiac functions must be carefully watched, and all those measures taken which are observed in cases of valvular disease of the heart. Excessive exercise, undue indulgence in alcoholic drinks, coffee, tea, or hot beverages, and emotional excitement, are to be forbidden. If the cardiac activity be reduced so that arterial

† On the Treatment of Nephritis. *Medical Press and Circular*, June 29, 1887.

tension is below normal, even though hypertrophy of the ventricles may exist, cardiac stimulants may be used, the most efficient of which is digitalis, which, after the caution already given, is understood to be a two-edged sword and employed only with circumspection. A milk diet, and suitable clothing, and residence in a warm equable climate, have been sufficiently dwelt upon by modern writers. If exercise bring about a marked increase of albuminuria it may be necessary to confine patients to their room. Bartels has had good results from restricting the patients to their beds for weeks or months. Subsequently, attention to maintaining the function of the skin by baths, massage, and warm clothing is most useful. If there be marked dropsical effusion, the use of pilocarpin and hot air baths is to be resorted to, with the classical diuretics (squill, digitalis, and potassium salts), to which calomel has been recently added by Jendrassik, who has directed attention to its decided diuretic effect, but it is liable to produce stomatitis and diarrhœa unless carefully watched. By the adoption of these means the prognosis of contracted kidney may be decidedly improved.

HOT WEATHER DRINKS.

VERY diverse views are held as to whether ice-water is wholesome in hot weather; or how much of it may be safely taken at once. Some avoid it *in toto*, and others swallow it wholesale. The first are apt to fall back upon beer, and the last are prone to cholera morbus. As in most other affairs of life, a happy medium is the true solution. Ice-water is good to drink, and it is by far the best assuager of thirst to be had in this torrid condition of both town and country; and although good beer in moderation may be serviceable in allaying thirst, it will never satisfy the longing for inward refrigeration so promptly or so safely as will cold water in reasonable amount. We no longer withhold ice-water from our fever patients, nor should we deny it to those who are in a feverish condition.

Acidulated beverages, such as lemonade or acid phosphate, with or without a pinch of cream of tartar, are alike pleasant and efficacious in allaying thirst and in keeping the kidneys active,—an important matter at all times, but specially so when people *will* eat as heartily of animal food in midsummer as in winter.

Good buttermilk takes the place nicely of the long line of "cocktails," "juleps," and the like, too often deemed necessary for the comfort of young men, while for children and their nurses it is both meat and drink during the hot weeks of summer.

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

TREATMENT of Abortion in Paris.—Having followed the methods used in the hospitals here, and attended the recent discussion at the Société Obstétricale de Paris, we can give a few interesting points with regard to the system used here, where abortion is so frequent that Professor Tarnier says that it exists in one out of every four pregnancies.

First, as to its preventive treatment. The rule given is, "As long as an abortion is not completed,—that is, the products of conception expelled,—attempt may be made to prevent it." This is not a rigid rule, however, for certain cases are inevitable: as, for instance, when the fœtus is dead. When the membranes are broken and the amniotic fluid has escaped, it is almost inevitable, but not certainly so; because several cases are known where the fœtus has been carried to term when the waters had been lost weeks before. There is no reason to consider an abortion inevitable because there is a hemorrhage, and even when in the blood discharged one can recognize portions of the decidua, for pregnancy has been proved to have gone on without it. Even when the os uteri is dilated and a portion of the embryo protrudes, hope may still exist.

The preventive treatment can be summed up in two formulæ: 1st, require absolute rest, with dorsal decubitus in bed, *never on the sofa;* 2d, diminish the uterine irritability by opium. Laudanum may be given by rectal injections. Twenty drops are first tried in

one-quarter pint of water; this is increased to forty, fifty, sixty, and up to a hundred drops in the same quantity of water per twenty-four hours. Pregnant women possess considerable tolerance for opium, and hypodermic injections of morphine may also be given when rapid action is needed. The above simple treatment is all that is used here, anæsthetics and chloral not being in favor.

When the abortion is inevitable the treatment is different. It must be divided into the treatment of an abortion of the first eight weeks and those of the third and fourth months. As to the first, the indication is to fight the hemorrhage, and the simplest treatment is the best. It mostly consists of absolute repose and expectation, and there is a good deal more to say as to what ought not to be done than what ought to be done. As to the first, one ought *never* to use applications of perchloride of iron on cotton in the vagina, on account of the blood forming clots which are difficult to detach, and which may cause septicæmia, or at least complications such as metritis or perimetritis. As to ergot, all the Paris accoucheurs have made a rule never to give it as long as anything remains in the uterus. As to the other forms of internal medication, they are considered worse than useless. There is therefore but very little done except to keep up perfect antisepsis. Every four hours an injection is made into the vagina of a solution of boric acid (three or four per cent.) or corrosive sublimate (one to three thousand). Besides this, the vulva is covered with borated cotton (the only dressing used at the maternities here); carbolized cotton is likely to produce burns that are very painful to delicate skins. When the hemorrhage is very severe, the means used are two: first, injections of hot water (intra-uterine if the vaginal are not sufficient). These are made with sublimate as a rule, unless this produces diarrhœa symptoms, when it is changed to carbolic acid solutions. One part of corrosive sublimate to six thousand of water is usually enough, unless there is danger of septic infection; then as much as one to two thousand is used. The temperature should be 43° or 44° Centigrade. If the vulva become painful from irritation of the liquid, use the following application: vaseline, one hundred grammes; boric acid, ten grammes. Have the boric acid well pulverized and well rubbed, or it will form hard lumps in places. If the flooding still continues, the only means left is to use the tampon invented by Leroux, of Dijon. In using the vaginal tampon, many have no idea of the quantity of material that should be prepared beforehand. Professor Pajot used to say, "Remember to have as much as would fill a high hat," and this is no exaggeration at all. Some twenty to thirty large lumps of sublimated cotton are prepared, each one tied with a long piece of string, and one by one are introduced, filling the vaginal cavity until it extends back to the ischium. It must not be forgotten to be sure to have the bladder and rectum empty before commencing. The tampon is never allowed to remain for more than twelve hours.

Massage.—This subject is again the order of the day, and several surgeons, as well as the strictly medical men, are bringing the matter forward. Dr. Dujardin-Beaumetz gives some interesting details of its history. It was known to the ancients, having been spoken of in an old Chinese work called *Cong-fou*. In India it has been practised for ages, and they call it *chemboo*, from which we get our word "shampoo." The Greeks and Romans made much use of it. It is curious to cite a remark of Hippocrates in regard to a woman who had a hardness of the abdomen. He said, "It was violently kneaded with the hands covered with oil, and cured." It can be divided into two kinds: massage with apparatus and without. Four kinds of action are used. First, *effleurage* (to skim over). This consists in light passes of the hand, or only the fingers, over the part; it is what the Germans call "combing the flesh." Next is friction proper. Thirdly, *pétrissage* (kneading). This is done by raising up certain muscles and rolling them together, or else kneading them with both hands. The last form is called *tapotement* (to pat or slap gently). Here there is a division made into slapping gently the tissues or striking (*hachement*) them with the ulnar border of the hand. Not much importance is given to the various oils and fats used with the massage. A story is told of a quack who had a sure cure for hernia, which consisted of a certain secret pomade he sold; the point lying in the directions given, which consist of massage and a good bandage put on after the pomade is used. In honest practice vaseline is often used, more or less perfumed with drugs, which have but little to do with the success.

As to the applications of massage in surgery, all surgeons are now agreed that it is the best form of treatment for all sorts of sprain, but as to fractures there is a division of opinion. M. Marc Sée and some others are highly in favor of it, while Trélat is opposed to it. The point seems to be that it should be applied at once to be of use,—just as soon as the patient is seen,—and, if the fracture is open, it is not to be used at all, at least until the wound is perfectly healed. In gynæcology and obstetrics its practice is very restricted here. In all articular affections good results are obtained. As to massage in the neuroses, it has as yet but few partisans in France. In heart-disorders much is done to reduce œdema, and the same good results are obtained in constipation and dilatation of the stomach. It is almost certain that all the good effects of Aix-les-Bains are owing to the skilful use of massage, for the waters themselves are but slightly

mineralized. There the *masseurs* have their art handed down to them from father to son, and mother to daughter, for many generations back, and it requires this great experience. Before modern establishments make a success of massage, they must consent to study it as other arts are studied, and give a certain time of apprenticeship to it if they hope for much success.

Intellectual Overwork and Sedentary Life in Schools.—The Paris Academy of Medicine has been making some long and rather tall talk over this subject. It has perhaps been overdone, but the evil certainly exists. Dr. Brouardel said that, in his opinion, students did not only lose their health from too much work and sedentary life, but also from the very conditions of life in large cities. When they are young, boys in the large towns are extra bright; but let a few years go by, and, if they are called upon to do much intellectual work, we see that they fall away and end by an arrest of development of intellect as well as physique. In many of these cases the genital organs do not develop, and these young men resemble, both in the abdominal region as well as the thoracic, young women of the same age. They are a sort of reproduction of the fabled Ganymede; and this anatomical state is definite. They do not change much as they grow older. At first at school they astonish their families by the great aptitude they have for study; but as puberty approaches a great change takes place, and they generally take the downward road to arrive at nothing of importance. Dr. Brouardel spoke against the custom here of placing boys in boarding-schools and keeping them confined so closely. If such institutions must exist, let them be placed out of town, where the boys could be exercised in the pure air of the woods, and not by a melancholy walk about town. There is nothing more curious in Paris to an Anglo-American eye than the sight of the long strings of boys in a tight uniform coat of the college they belong to, walking slowly along, two by two, as demure as girls out with their mammas.

Professor Peter spoke in a later session this month, on the same subject, and called attention to the symptoms, particularly of headache, from overwork in intellectual pursuits. He said that it was a much-neglected symptom that might lead to pathological disaster more quickly than usually thought. It was the cry of the overworked brain, the voice of suffering of an organ fatigued that demanded rest. If this cry were not heeded, the brain would refuse to perform its usual functions, and the cerebral cells would go on a strike. Many of these young overworked children complain of headache, and are told that it is laziness; but it will reproduce itself the moment any reading or study is attempted. It is a sort of, writer's cramp of the brain. M. Peter spoke of cases where the young subjects could take part in conversation, but the moment they went to books the headache returns, and very often with epistaxis. To this, later on, is added a sort of fever. A typical case is given of a young girl. The mother relates the case: "My daughter was nearly at the end of her studies for a diploma when she was taken with violent headache and bleeding of the nose, which was soon afterwards followed by fever; both her appetite and sleep soon left her. The family doctor suspected typhoid fever, and at once ordered rest; but for some time the symptoms returned. The superintendent of the school said that it often happened that her students had these symptoms, and she stated that four months of holiday was the only cure. In some cases over three years was required to re-establish them." M. Peter spoke in strong terms, condemning the close confined air of schools and the action it had in producing tuberculosis.

Hydrophobia.—Monsieur Pasteur having returned to Paris, it was expected that something would be done at the Academy in regard to the opposition made to his treatment by Professor Peter and others, and M. Pasteur took the opportunity in the last session to lay before his fellow-scientists a report of the commission appointed by the English Parliament to examine into his treatment of hydrophobia. As perhaps many of your readers will have seen, this report was quite favorable to the Pasteurian treatment, and M. Pasteur and those with him rejoiced over this fact in presenting the report.

Professor Peter, however, returned to the charge by stating that in January last he took occasion to direct attention to the danger of the form of intensive treatment then employed by M. Pasteur. He understood that since then it had been very much modified, and that now they do not dare to inoculate with three-day-old marrows; but, notwithstanding that there was a return to the first system, it seemed to him that it was just as inefficacious as ever. He presented as proof of what he said the case of a man named Hurot, who was bitten by a dog on the 29th of May last, who went at once to the nearest drug-store, where he had the slight wound carefully cauterized. Owing to the advice of some friends, he went to the Pasteur Institute the day afterwards, where in thirteen days he was inoculated eighteen times. Following this he went to his work, and felt no trouble of any kind until about ten days ago, when he was suddenly taken with a curious malady. Dr. Miquel being called, he recognized all the usual symptoms of hydrophobia, and sent the man to the St. Antoine Hospital, where he came under the care of Professor Hayem, and where he died in frightful agony. M. Peter called attention to the fact that the

incubation of hydrophobia was about thirty-five days, and that it was exactly this time since the man was inoculated, and he did not hesitate to say that it might be from the treatment followed by M. Pasteur.

M. Pasteur answered that his system was established in many places, and that it was confirmed by the English commission, and to prove that a man had died by it it would be necessary to inoculate animals with his medulla oblongata; but this proof was not given in any case. He said he did not wish to discuss the question with the person who just spoke (Professor Peter), as he did not think him clinically or experimentally competent.

Professor Peter answered that no one is incompetent who cited facts, and he wished to continue his argument, but was put off until the next meeting of the Academy. It is very difficult to judge of M. Pasteur's treatment, and whether he or M. Peter is right; but it will not take any one long to judge of the competency of Professor Peter to discuss any clinical matter much better than the eminent chemist who so carelessly denies his competency. M. Pasteur will not gain any friends to his method by this kind of talk, and will most likely regret having spoken as he did at this session, when he will again be sharply attacked by the great clinical master next week.

Ablation of the Ovaries for Nervous Disorders.—This question has just been brought before the Gynæcological Society by a paper presented by M. Lucas Championnière. There are three principal points in regard to it: 1st. Is there a relation of cause to effect between ovulation and menstruation? 2d. What is the prognosis of the operation? 3d. Is ablation of the ovaries, when they are healthy or diseased, to be authorized in nervous diseases?

1st. There are three different theories in regard to ovulation and menstruation: (*a*) that ovulation is under the dependence of menstruation; (*b*) that menstruation is under the dependence of ovulation; (*c*) that they are both under the dependence of the central nervous system. No matter what may be our opinion, there are certain facts that must be admitted. Menstruation is a function that has a periodical return, and ovulation does not of necessity follow it; it is independent of menstruation. This is based on clinical and anatomical facts. Leopold's work is based on the examination of ovaries taken from women who died during their menstrual periods, and he saw that he could always find Graafian follicles about to break or else already broken. The same observation was made by Lawson Tait, who operated between the monthly periods. M. Porak has given twenty-one observations where a single coitus was followed by conception; four times he could not get any information about the time; twice the connection took place near to the monthly term; but in the other fifteen cases it took place during various periods of the month; so that conception can take place at any time between the periods. The Jews, who are so prolific, separate from their wives during the eight days following menstruation. What, then, are the arguments worth which are given to support the idea that ovulation and menstruation take place at the same moment? A comparison is made in regard to the rut of animals; but this is only a hypothesis, for we do not know if any one has really seen the rupture of De Graaf's follicle during menstruation.

It is concluded then that ovulation is a permanent function, and menstruation a periodical one. It is not intended to say, however, that there is no connection between them, but that they are not dependent on one another. Does ablation of the ovaries cause menopause? Not always; but it does as a rule. Hegar thinks it does; Goodman is not so sure. M. Championnière, with most of the French surgeons, believes that in cases where the menopause does not occur all the ovarian tissues were not taken away in the operation. The final question is, Whether this operation ought to be done for nervous complaints or not? It has been proposed for certain forms of dysmenorrhœa, and for nymphomania. The solution of this question reposes on two things: first, the prognosis of the ablation; second, the amelioration of the nervous affection. M. Championnière mentions one death in three operations, which is not at all encouraging. He also cites Magnin's paper, containing seventy-seven cases with three deaths, but his statistics are not correct. Hegar gives sixteen per cent. Lawson Tait had twenty-five per cent. of deaths; but afterwards made one hundred and eight ablations with two deaths. Goodell in 1885 gave twenty-five cases and only one death. In any case it is a serious operation, and we must ask the question, What are the results? In nymphomania none. In hysteria a slight amelioration, but in general the results are negatives. Hysteria is certainly an affection of the central nervous system, and not at all dependent on menstruation. In dysmenorrhœa cure is often obtained, but there are cases that are only aggravated. In fact, this operation is one that should not be practised until all other means had been tried, and it is the opinion of many of our best obstetricians that many cases will be cured in time from more simple treatment than this extremely grave operation.

Preservation of Cadavers.—M. Bouchard, of Bordeaux, gives a new means of preserving dead bodies for anatomical use. He found that, owing to the warm climate of Bordeaux, they had more difficulty than else-

where, and made many experiments to improve the methods used, with the result of finding one that acts very well; so much so that they were able to keep subjects for two months without the slightest signs of putrefaction or smell of any kind. The muscles and tissues keep their normal color and consistence, and the anatomical elements are not altered. Every one knows how the nervous centres get soft and useless for the purposes of study; but with the present preparation it has been possible to extract firm brains after three weeks' preservation of the body. The following is the formula used: borate of soda (which is hydrated to ten equivalents of water), ten kilos; to this add seventeen kilos of glycerin at 30° Baumé. The materials must be of the best quality, and they are prepared as follows: 1st. Reduce the borate of soda into a fine powder, and pass it through a sieve, No. 0. 2d. Put it into a large receptacle, and mix in the glycerin slowly to prevent lumping. 3d. Heat all up to a temperature of 80° Centigrade until the borax is dissolved; it should be constantly stirred. 4th. Pass it through a flannel sieve. The liquid will be now in a syrup, and it must be thinned with alcohol in order to inject it. The injection is made by the carotid or the femoral. If in this last, be careful to inject below the origin of the profunda femoris. For all subjects that have had an autopsy made, inject the members and plunge the trunk into a bath of the alcoholized, borated glycerin for twenty hours. Since using this method, M. Bouchard says that the students who cut themselves do not experience any symptoms of poisoning, and besides they do not any longer suffer with gastro-intestinal affections.

Strophanthus hispidus.—Since Fraser spoke of this medicine a good deal has been said about it, but so far the experiments made with it have been restricted here, owing to the high price first charged for the drug, and also owing to the fact that such men as Professor Germain Sée and others wanted to get the alkaloid. M. Hardy, of the Hôtel-Dieu laboratory, has made a little of it, but it is too soon to speak with certainty of the results of the experiments at that hospital in M. G. Sée's service. The plant, it seems, was first brought to Europe by Livingstone in 1865. The solution in water, one to one thousand, was tried in subcutaneous injections, but it produced a serious inflammation of the skin, and its use was abandoned. The best preparation we have been able to get so far is the alcoholic tincture, which is given three times a day in five-drop doses. In all troubles consecutive to the affections (primitive or secondary) of the heart-muscle, strophanthus has been pronounced a great success. The pulse gets fuller and stronger; its frequency is diminished from twelve to forty pulsations per minute; respiration becomes more quieted, more profound, and less rapid; diuresis augments to sometimes six or eight times as much as before its use. The action is durable and persistent, keeping up so far for three or four months. The medicine seems to be particularly useful in Bright's disease, being preferable to digitalis here, as it raises the amount of urine without increasing the blood-tension, as digitalis does. It does not seem to have any action over fever at all; but the patients get better quicker under its use, and do not seem so depressed. Later we will be able to give more definite results as soon as the alkaloid (strophantine) itself comes into use.

Wounds of the Intestine by Firearms.—The Paris Surgical Society this winter had a considerable discussion over this subject, and Professor Trélat with others took up what may be called the American mode of treatment. This has been very ably put forward in a thesis just presented for the *doctorate* at the Faculty here by an English physician, Dr. J. H. Barnard, who kindly forwards us a copy of his work. He cites the opinions of Gross, Hamilton, Bull, Otis, Nancrede, T. G. Morton, and others, and concludes that opium treatment with expectation is useless; and that the moment we are brought into consultation with such cases we must at once make preparations to perform laparotomy on the median line (*linea alba*); and that the operation has the more chance of success the quicker it is done. He says that, according to Morton, the lapse of time when the operation was successful was seven hours, but those without success over twenty-three hours. This matter is so essentially American in its treatment that nothing more need be quoted to your readers from this interesting thesis.

THOMAS LINN, M.D.

PARIS, July 8, 1887.

PROCEEDINGS OF SOCIETIES.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

THE Fourth Annual Meeting of the Association was held in the Johns Hopkins University, Baltimore, Maryland, May 31 and June 1, 1887, the President, Dr. Frank Donaldson, Sr., of Baltimore, in the chair. The President's Address was on the subject of the

PROPHYLACTIC TREATMENT OF THOSE WHO INHERIT A PREDISPOSITION TO PHTHISIS.

The great mortality of phthisis is well known, but statistics lately compiled show a decrease in the annual mortality both in this country and abroad. In Massachusetts there has been a gain of fifty-four lives per one hundred thousand. It has been shown that thirty per cent. of the cases have an inherited

predisposition, and this hereditary form, when developed, offers the least prospect of recovery. Nearly all observers have now accepted the views of Koch. There is abundant evidence that human subjects readily yield to the bacillar poison when previously they have been in perfect health. This bacillus is always present in phthisis, and we must accept it as the full explanation of the manifestations of tuberculosis. The disease may be propagated by the inhalation of the dried bacillus from the expectoration of diseased persons by persons predisposed to tuberculosis. The prophylactic treatment embraces two elements: (1) the improvement of the general health of the subject, and (2) the protection from contagion. Tuberculous mothers should not nurse. If possible, the child should be given to a healthy wet-nurse. The hygiene of the nursery should be looked after carefully. The room should be well ventilated and kept at a comparatively low temperature. The subject should live much out of doors, especially between the ages of fifteen and twenty years. The beneficial influence of sunlight should be borne in mind. All causes of glandular irritation should be avoided. Scrofulous glands should be dispersed or removed. The physical form of the chest should be enlarged by gymnastic movements. If possible, life should be passed in a high altitude. Oleaginous fluids are useful if they can be digested. The milk and flesh of tuberculous animals must be avoided, for cooking rarely destroys the bacilli of beef. If the prophylactic treatment is thoroughly carried out, the hereditary proclivity may remain latent permanently.

DISCUSSION.

Dr. James C. Wilson, of Philadelphia, endorsed the view that pulmonary tuberculosis in all its forms is in all probability an infectious parasitic disease directly contagious.

Dr. B. F. Westbrook, Brooklyn: The anatomical and physiological conditions which predispose to this disease are, according to the results of observations, a disproportion between the size of the heart and the lungs, the heart being smaller in proportion to the size of the lung than in the ordinary individual, and a disproportionately small digestive apparatus. The former condition interferes with the circulation at the apices, while the latter condition causes a defective nutrition.

THE PHILOSOPHY OF CLIMATIC TREATMENT OF DISEASES OF THE CHEST. BY JAMES R. LEAMING, M.D., OF NEW YORK.

It is observed that during the first three weeks of the patient's stay at a new place the greatest improvement usually takes place. The suggestion was made that a line of resorts be established along the Atlantic seacoast. The patient could begin in the summer at the most northern and gradually pass southward, making a stay of a few weeks at each place. Having completed the series, the patient may return, taking the stopping-places in a reverse order. This same plan might be applied to the Pacific coast and to the mountains. The speaker also suggested the propriety of State and municipal authorities furnishing sanitariums for the poor.

THE INFLUENCE OF SEA-AIR ON SYPHILITIC PHTHISIS. BY DR. R. G. CURTIN, OF PHILADELPHIA.

The histories of five cases of what appeared to be syphilitic phthisis, in which improvement followed prolonged sea-voyages, and in each case of which the symptoms returned when the patient again took up his residence on land, formed the basis of this paper. He considered the cases observed as cases of syphilitic phthisis for the reasons that there were no symptoms of chronic pneumonia preceding the attack, that the lung-disease followed syphilitic infection with constitutional symptoms, that the disease was influenced to some extent by constitutional treatment, and that there was no tendency to tuberculosis in these cases. He referred to the observations of Dr. William Porter, who relies upon the following points in reaching a diagnosis of syphilitic phthisis: 1, abundant expectoration without signs of softening; 2, a debilitated condition without marked emaciation and a rational history of phthisis; 3, pronounced dyspnœa without evidence of cardiac or pulmonic obstruction to the circulation; 4, pain along the sternum and the tibial crests; and, 5, the satisfactory response to treatment. Dr. Porter had examined the sputa in one hundred cases without finding the bacillus. The speaker was not prepared to say why it was that the sea-air proved beneficial in these cases, contrary to experience in the ordinary cases of phthisis.

A paper by Boardman Read, M.D., of Atlantic City, on

DISEASED CONDITIONS FOR WHICH SEA-AIR IS OF DOUBTFUL BENEFIT,

was read by title.

A general discussion followed.

Dr. James C. Wilson, of Philadelphia, said that there are three classes of patients with consumption who cannot go to our exposed Atlantic sea-coast without risk. These are—first, those in whom there is active febrile disturbance; secondly, those of a highly excitable and nervous organization; and, thirdly, those who suffer from repeated attacks of spitting of blood.

Dr. Frederick C. Shattuck, of Boston: The author has referred to syphilitic phthisis,—that is to say, a destructive process in the lung not due to tubercle, but to the syphilitic

virus. It seems to be a difficult matter to determine whether or not there is such an affection. Tubercular phthisis varies so much in its symptoms that the points mentioned cannot be relied on. It seems that the criterion would be the presence or absence of the tubercle-bacillus. The author referred to Dr. Porter as having examined the sputa from one hundred cases of supposed syphilitic phthisis without finding the bacillus. That number is so large for the short time that this test has been available that it would make us a little doubtful of the methods employed. The fact that the bacillus is not found is no proof that it is not present. The German Committee on the Collective Investigation of Disease studied this matter last year and came to the conclusion that so-called syphilitic phthisis had no real existence. Both syphilis and tuberculosis are common diseases, and the one offers no immunity from the other, so that we should expect to frequently find them combined in the same individual.

Dr. J. H. Musser, of Philadelphia, said that he had never seen a case of phthisis which he considered of syphilitic origin. In the post-mortem room he had come across only one case in which the lesions bore any resemblance to what we should expect to find in syphilitic phthisis. This was the case of a young man with syphilis and cirrhosis of the liver due to syphilitic interstitial hepatitis. There were also syphilitic gumma in the brain, and the patient died of syphilitic meningitis. There were scattered through both lungs innumerable miliary granules not at all resembling miliary tubercles. These were solid bodies made up of a yellow core, which was moderately firm and surrounded by a ring which made up at least one-half of the nodule. The microscopical examination showed these bodies to consist of a ring of firm fibrous connective tissue, in the centre of which there were degenerating cells. We were unable to find the bacillus of phthisis, but, as has already been stated, the failure to find it is no proof of its absence. He would not call this a case of syphilitic phthisis, but rather a case of syphilis of the lungs.

Dr. E. Fletcher Ingalls, of Chicago: I have been much interested in the remarks of the gentleman from Boston, but I apprehend that most of us had seen cases in which the syphilitic nature of the disease admitted of no question. Even if the bacilli are found, it would be no proof that the case had not originated as a syphilitic disorder and that it had subsequently become tubercular.

THE TREATMENT OF THE FINAL STAGE OF PHTHISIS. BY DR. J. H. MUSSER, OF PHILADELPHIA.

This contribution consisted of a detailed account of the symptoms met with in the last stages of phthisis, and referred to the various measures which he had found useful in these cases. To relieve the high temperature he had resorted to antifebrin with advantage. Quinine was found to act unsatisfactorily.

In the evening a paper entitled

CAUSES OF CARDIAC FAILURE IN HIGH ALTITUDES

was read by Dr. Frank Donaldson, of Baltimore.

The important fact that there is often great dyspnœa and sudden cardiac failure on going to high altitudes has not been sufficiently emphasized. Many patients are sent for general or special reasons to high altitudes, and are thereby done great injury, especially if they suffer from any form of functional or organic heart-disease. From some experiments with the pneumatic cabinet the author had come to the conclusion that this treatment should not be employed in cases in which there is any valvular disease of the heart or fatty degeneration of its walls. Before being subjected to treatment in the cabinet, an examination of the heart should always be made. It has been asserted that the cause of the cardiac failure in ascending to high altitudes is want of oxygen. The speaker had performed certain experiments with reference to this point. At altitudes within ten thousand feet there is sufficient oxygen to supply the hæmoglobin. In ascending to high altitudes the pressure of the air within and without the lungs is the same, but on the heart the action is different. The pressure is removed from the outer surface of the heart, while the internal blood-pressure remains the same. There consequently must be dilatation of the heart-walls. This, in the author's opinion, was the cause of the heart-failure under these circumstances.

DISCUSSION.

Dr. B. F. Westbrook, of Brooklyn: I have no doubt that the explanation of the author with reference to the effect of high altitudes on the heart is correct, but in the pneumatic cabinet the conditions are different. Where the patient inhales compressed air or sits in a rarefied atmosphere and inhales air at the ordinary pressure, there is an absolute or relative increase of pressure within the thorax. The heart is, therefore, submitted to a relatively increased pressure. As a matter of practical experience, he had found that patients with mitral stenosis or mitral regurgitation with pulmonary congestion can be put in the cabinet with safety. He should hesitate very much before putting a patient with aortic regurgitation into the pneumatic cabinet. In mitral disease, however, the tendency is to assist rather than exhaust the diseased heart.

Dr. H. F. Williams, of Brooklyn: Certain New York observers have claimed that in weak heart, particularly the "tobacco heart," they have obtained with the pneumatic cabinet an

effect similar to that of digitalis, due probably to a stimulation of the circulation through the coronary arteries.

Dr. S. S. Cohen, of Philadelphia: The heart is habituated to a certain pressure of the atmosphere (seven hundred and fifty-four millimetres of mercury). When the individual goes into a rarer atmosphere there is a disturbance of the relationship between external and internal pressure, and this disturbance will necessarily bring disease upon the patient. The inhalation of compressed air in cases of dilated heart has been recommended for many years by Waldenburg and others. He had recently employed this measure with beneficial results in alleviating the dyspnœa and defective circulation due to a dilated heart.

Dr. James T. Whittaker, of Cincinnati, Ohio: The condition met with in a rarefied atmosphere cannot be compared with that met with in the pneumatic cabinet. It does not seem possible to exert any mechanical pressure upon the heart in the cabinet. The conditions which have been observed admit of easier explanation by a study of the effects on the surface vessels. When the pressure is removed from the superficial vessels, the dilated heart propels the blood easier than before. This is one of the most efficacious means of treating irregular heart. He had used the cabinet for two years and had seen no ill effects from its use, although patients with advanced cardiac disease should not be subjected to this plan of treatment.

SOME HOSPITAL CASES OF PHTHISIS—MARKED IMPROVEMENT UNDER GENERAL TREATMENT, WITH SPECIAL REFERENCE TO ALIMENTATION. BY DR. F. C. SHATTUCK, OF BOSTON.

The cases reported in the paper had been treated in the Good Samaritan Hospital, devoted to the care of chronic diseases. Many of the patients had previously been exposed to unfavorable hygienic surroundings. The principal object of the treatment was the improvement of the general condition. Search had been made for a specific treatment. If the disease is of a parasitic nature, it is natural to suppose that such a treatment would be of avail. At present no such method of treatment is known. There are few individuals to whose lungs, at one time or another, the bacillus does not gain access. The fact that certain individuals are affected while others escape forces us to believe that there is a predisposition to the disease. The treatment employed by the author had consisted in relieving symptoms, improving the digestion, and the administration of as much food as the patient could take in the natural way. Artificial feeding had not been resorted to, but the patient was fed six or seven times a day. From two to ten raw eggs, with milk, were given daily to each patient. Alcoholic stimulants were not administered to these patients as a routine treatment, but were used only temporarily for special purposes. He had for several years been systematically cutting down the quantity of alcohol used in chronic cases, and had seen no reason to regret it. His experience had been that alcohol was not used with sufficient discrimination in chronic cases of diseases. Beef, milk, eggs, and other nourishing articles are more expensive than alcohol, but, if they can be consumed in sufficient quantity, they are more useful. In 1883 the amount expended per patient for alcoholic liquors had been two dollars and seventy cents, while in 1886 it had been only thirty-four cents. The patients received no injury, even if they were not benefited, by this reduction. Eight cases of well-marked phthisis were reported in which a decided gain in weight and general improvement resulted from the employment of the plan of treatment above described. About sixty cases had been under treatment.

DISCUSSION.

Dr. E. T. Bruen, of Philadelphia: Of the therapeutic measures under the control of the profession, diet, climate, and suitable hygiene are of principal importance. It is possible by climatic and dietetic treatment to so change the nature of the tissues that they shall not be suitable culture-media for the growth of the bacillus of tuberculosis. He wished, however, to refer more particularly to the use of the Bergeon method by the rectal injection of sulphuretted hydrogen. To antagonize the specific cause of the disease this method has been a failure, so far as his experience went. Since February last he had had under treatment by this method sixty-one cases. Systematic examinations of the sputa were made by Dr. E. O. Shakespeare. There had been no apparent reduction in the number or change in the character of the bacillus. This method should be classed among the available methods for the treatment of this disease. The good effects he had observed were reduction of temperature, reduction of expectoration, very often a complete suppression of bronchial catarrh, and relief of cough. This leads to improved digestion, and enables the dietetic treatment to be carried out with great thoroughness. Forty-four of these cases showed improvement to a certain extent, the average gain in flesh being about five pounds. In one-half of the cases the temperature has been brought to the normal, while in the remainder, although the temperature has not been brought to normal, it has been reduced two or three degrees. In fifteen cases the results have been negative, but in no case did any harm follow the use of this plan of treatment. The improvement has been most marked where there is a considerable catarrhal element. Those cases in which there has been more or less thickening of the lung,

with the general symptoms well marked, wasting, loss of flesh and weight, without much rise of temperature, he found not specially benefited by the injection of gas. In a post-mortem in one case which had been subjected to this treatment, although the cavities in the lungs were unusually clean, he did not observe any evidences of cicatrization. He had not found strong solutions at all satisfactory. The best results have been obtained from a solution of five grains of sulphide of sodium with five grains of chloride of sodium in one and a half pints of water. He did not consider it desirable to administer more than a gallon and a half of gas at one time, and insisted that the injection be made slowly, and that one-half to three-quarters of an hour should be occupied. He had not derived as much satisfaction in the treatment of the various forms of phthisis to which he had referred from any other method as he had from the injection of sulphuretted hydrogen. He always tested the breath for the presence of sulphuretted hydrogen, and had negative results in at least eight out of every ten cases.

Dr. S. S. Cohen, of Philadelphia: The experience of Dr. J. Solis Cohen and myself differs in some respects from that of Dr. Bruen. We have obtained the most decided benefit from strongly-impregnated waters. The best results were obtained in those cases in which the patient had a decided taste of sulphuretted hydrogen, which continued for two or three hours after injection. The best effect has been obtained in those cases in which suppuration is about beginning. Bergeon states that the treatment is directed especially to the suppurative process. In employing this measure, great attention must be paid to detail. In about fifty per cent. of the cases the condition has been greatly ameliorated; in another twenty-five per cent. there has been slighter amelioration; while in the remaining twenty-five per cent. there was more or less benefit to certain symptoms. He had seen no case in which no results were obtained.

Dr. James T. Whittaker, of Cincinnati, has for a month used sulphuretted hydrogen by inhalation, having previously employed it for a month by injection. He began the use of inhalation carefully, and, finding it well borne, had pursued the method more boldly. He now puts the patient in the cabinet and allows him to have all the gas he will take. It has produced no unpleasant results in any case. The effects obtained have been about the same as those resulting from injection. In about one-third of the cases there were no results. After searching the literature for records of bad results following the use of sulphuretted hydrogen, he had found only two in which a fatal result followed. It has been asserted that the good effect is due to the carbonic acid; but he was entirely incredulous of the effect of this agent.

Dr. Roland G. Curtin, of Philadelphia: It has been recommended by Dr. H. C. Wood that the sulphuretted hydrogen be taken by the stomach, using a saturated solution through which carbonic acid has been passed. He had tried this in four or five cases, and has had the same effects as from injection.

Dr. J. H. Musser, of Philadelphia, had used the gaseous injections to a certain extent, but his success had not been as marked as some others'. His best results had been in two cases. One was a case of incipient phthisis, in which the patient gained thirteen and a half pounds in four weeks. The second case has gained eight pounds in four weeks, and has much improved in general condition. He attributed his want of good results in part to the want of enthusiasm on the part of those whose duty it is to carry out the details of the treatment.

Dr. F. C. Shattuck said that he had used the sulphuretted hydrogen gas, and in several patients it produced collapse in varying degrees, with weak pulse, nausea, vomiting, and headache. In several other cases, although the treatment was well tolerated, it produced no good effect. In one case of asthma with chronic bronchitis and emphysema, thirty-four injections of the gas were given. While the treatment did not disturb the patient, it did no good. With the use of the gas was combined the administration of iodide of potassium and other remedies, and the patient recovered in about the same time as on a previous occasion when the latter remedies were given and no gas used.

(To be continued.)

THE ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued from page 683.)

DISCUSSION ON HEART-MURMURS.

DR. A. L. LOOMIS, New York, said that murmurs within the heart-cavities are due to many different causes. Many are obstructive, while others are due to the impinging of currents of blood upon each other in the heart. They are also due to the force with which the blood-current is carried from the heart into the vessels. They are also due to, or greatly intensified by, the condition of the blood. Occasionally they may be due to irregular action of the heart produced by nervous condition. The obstructive mitral murmurs referred to are of frequent occurrence in connection with aortic disease where there is dilatation and feebleness of heart-power, but on autopsy he had always found such changes in the mitral valves as seemed to account satisfactorily for the murmurs heard.

Murmurs may be readily produced during respiration, but where these murmurs have been persistent he had always found attendant conditions of anæmia and failure of the

right heart. It seems that the explanation is either a hæmic condition or failure of heart-power. As we study the cases more, we shall find that they are due not so much to changes in the valvular orifice as in the heart-cavity and in the heart-walls. Murmurs have very little pathological significance unless there are other changes associated with them. The worst cases of heart-disease have often the simplest and least distinct heart-murmurs.

Dr. E. T. Bruen, of Philadelphia, mentioned a case of anæmia in which the blood-corpuscles were reduced from the normal to one million eight hundred thousand, with a great reduction in the hæmoglobin. There was also great relaxation of the vascular system; so much so that when the arm hung down there was a venous pulse at the back of the wrist. This was attributed to relaxation of the capillary vessels to such an extent as to permit the systolic impulse of the left ventricle to force the blood through the capillaries into the veins. There was no venous pulse in the neck. In this case there were murmurs at each of the valves of the heart. As the anæmia improved and the crasis of the blood was restored, the venous pulse disappeared and the murmurs gradually lessened, and the man has now no murmur whatever. This case is corroborative of the view of the author that in anæmia the murmurs are due to some functional disturbance of the valves.

Dr. F. P. Kinnicutt, of New York, said that it had been claimed by certain observers that pulmonary systolic murmurs are transmitted from the mitral valve into the auricular appendage. The condition required that this may occur is said to be dilatation of the appendage, causing it to approach the chest-wall. In some anatomical examinations he had made a few years ago it was found that in the normal condition the auricular appendage was concealed beneath the pulmonary artery, and when fully dilated its tip only could be seen beyond the edge of the artery. It was even then one and a half inches from the internal surface of the chest.

Dr. F. C. Shattuck, of Boston: When auscultation was first introduced all cardiac murmurs were considered of bad omen. It was then discovered that many systolic murmurs were practically of no importance. We are now finding out that all diastolic murmurs are not of evil import, and that they may be transitory and functional. A murmur by itself is next to nothing; there must be something besides the murmur to make it of much importance. The author has stated that in anæmia there is a reduction in the quantity of the blood. Is not the reduction really more in the quality,—a corpuscular reduction and a reduction in the capacity of the corpuscles for carrying hæmoglobin?

Dr. Samuel C. Chew, of Baltimore, with reference to the diagnosis between aortic regurgitant and mitral direct murmurs, said that the diagnosis can usually be made by attention to the following points. An aortic diastolic murmur, although it may be intense at the apex, becomes manifestly louder as we reach the right side of the sternum in the second intercostal space. It will there occupy the whole diastole. If the murmur is mitral in origin it generally will be presystolic, and will be also heard in the scapular region. The aortic murmur is not apt to be heard in the latter situation.

Dr. Beverly Robinson, of New York, in acute strain of the heart not necessarily brought about by great muscular exertion, had occasionally observed murmurs which unquestionably had nothing to do with organic changes in the heart, and cannot be explained as due to any special modification in the blood. The murmurs seemed to be due to more or less acute dilatation or obstruction of the mitral orifice. These murmurs he believes have considerable prognostic importance; for, if they do not receive careful attention and proper treatment, the condition may progressively develop until a permanent lesion is occasioned.

Dr. Israel T. Dana, of Portland, mentioned the cases of two sisters, one 40 years of age and the other 33, whose mother died with organic heart-disease. Both of these sisters have had a mitral regurgitant murmur. In the older sister the murmur, after remaining for five or six years, disappeared. It remained absent for one or two years, and then returned, and has continued for the past two or three years. In the second case the murmur, after having been present for five or six years, disappeared, and has since remained absent. He asked if it were possible that a murmur connected with organic heart-disease should disappear with improvement of the health and reappear when the health again fails.

The next paper was by Dr. Hosmer A. Johnson, of Chicago, on

PNEUMATIC DIFFERENTIATION,

and was read by the Secretary. The author had compared the results obtained by the cabinet with those obtained by the Waldenburg apparatus, and he held that the former accomplished no more than the latter. The pneumatic cabinet he considered cumbersome and expensive, with nothing specially to commend it in the treatment of pulmonary diseases.

The last paper of the morning session was entitled

METHODS OF LITERARY RESEARCH. BY DR. JOHN S. BILLINGS, U.S.A.

The author referred to the best way of using libraries with especial reference to medical literary work. He also spoke of the great importance of carefully-prepared catalogues

of books, and especially of the work at the library of the Surgeon-General's Office, which deserves to be better appreciated by the profession.

Afternoon Session.

THE ANTIPYRETIC TREATMENT OF FEVER. BY H. C. WOOD, M.D., OF PHILADELPHIA.

The author, in order to make the matter as brief as was possible, had prepared certain propositions or conclusions, which he would read and then give what he thought to be the proof of their correctness. The first proposition was, "Fever is a disturbance of calorification in which, through the influence of the nervous system, heat-dissipation and heat-production are both affected. If there be a fever which is produced by the direct action of a poison independently of the nervous system, we have at present no proof of its existence."

If an animal's temperature rises, there must be a certain number of heat-units used in producing that rise. If the temperature falls, there must be a corresponding lessened production of heat. In his experiments the agent used to produce the fever has been the pyrogenic principle found in ordinary commercial pepsin. After the substance has been introduced, the animal is put into a calorimeter. The animals used in the experiments have been dogs. In the normal animal, heat-production and heat-dissipation are correlated functions. When the poison is injected, it is found that heat-dissipation increases at the time that heat-production is diminishing, so that the fall of temperature was in part the result of heat-dissipation and in part the result of diminished heat-production. It is impossible that there should be this wide disturbance of these two functions simultaneously, unless the poison which produces the fever acted upon some one central organ, and that must be the nervous system. McAllister, of London, while believing that fever is often produced through the nervous system, thinks that at times it may be produced by widespread tissue-change caused directly by the poison, his reasoning being that in the advanced stage of fever the temperature is higher than at the beginning. He says that the time when the poison is at its maximum does not correspond to the time when the fever is at its maximum. The objection to this argument is that we do not know that the poison of the disease is the direct cause of the fever. The poison which causes the disease in scarlet fever, etc., is probably not the poison which causes the fever. The latter is probably generated in the system.

Second, "Heat-production is regulated by a nervous apparatus, our knowledge of which is still imperfect. There is certainly an inhibitory centre which depresses or controls the production of heat. It probably does this by acting upon the trophic cells of the gray matter of the spinal cord. It is possible also that there is a centre which, when excited, increases tissue-change, but its existence has not yet been proven." The speaker then gave a résumé of the experiments which he had performed which in his opinion proved the truth of the above proposition.

Third, "Heat-dissipation is regulated through the vaso-motor system, so that vaso-motor paralysis is followed by an enormous loss of animal heat, and, under unfavorable circumstances, even by death from cold." If section of the cord is made in such a way as to get vaso-motor paralysis without destruction of the respiratory centres, the heat-dissipation rises enormously, and if the animal is kept in a temperature of 50° or 60°, it dies in a few hours of progressive loss of heat, but if kept in a warm chamber it lives for days. The cause of the rapid heat-dissipation is the dilating of the blood-vessels of the surface of the body.

If these remarks are applied to a study of antipyretics, it is seen that drugs may lower bodily temperature in health or in fever by increasing heat-dissipation. In this way all agencies act which cause vaso-motor paralysis. Antipyretics acting in this way may be called false antipyretics. Aconite, veratrum viride, and drugs of that class belong to the false antipyretics. Then it is conceivable that there may be drugs which act on heat-production through the inhibitory nerve apparatus of which mention has been made. Such drugs may for convenience be called true antipyretics. Whether or not there are any true antipyretics has, until recently, been a question which we have been unable to answer. With regard to antipyrine, certain experiments made in the University of Pennsylvania seem to give positive results. Care must be exercised in these experiments not to confound a normal defervescence with the action of the drug administered. In the dog the use of antipyrine diminishes both heat-production and heat-dissipation, the former being diminished more than the latter. It is probable that heat-production is primarily affected. The question arises whether this result is due to an effect on the circulation. He had found that antipyrine had no effect upon the circulation. The blood-pressure was uninfluenced by its administration. He therefore concluded that the action of antipyrine upon the bodily heat was entirely independent of any action upon the circulation, and the probabilities are of course that it acts through the nervous system. Beyond this our present knowledge does not extend.

Francis Minot, M.D., of Boston, read the next paper, on

THE TREATMENT OF TYPHOID FEVER BY ANTIPYRINE AND THALLINE,

based on the observation of twenty-four cases treated in the Massachusetts General Hospital, the object of the study being to

ascertain the proper dose of the drugs, their general and specific effects upon the patients, the results from their continued use as compared with those from their occasional employment, any unfavorable results, and the general effect of antipyrine and thalline upon the course of the disease.

The following conclusions were reached: 1. Both antipyrine and thalline have a remarkable power of reducing the temperature in typhoid fever. 2. In no case was the use of these refrigerants apparently followed by any unfavorable effect upon the course of the disease. 3. The general condition of the patient was more comfortable after taking antipyrine and thalline, which were often followed by sleep. 4. The refrigerant medication by antipyrine and thalline appears to have no specific or decided effect upon the course or issue of typhoid fever. It often contributes much to the patient's comfort, perhaps indirectly promotes his safety. 5. The effect of antipyrine and thalline in promptly lowering the temperature shows that the danger in typhoid fever does not consist in high temperature alone, and that the latter is rather an index of the violence of the abnormal condition which we call fever, though perhaps adding somewhat to the danger. 6. By the internal use of antipyrine and thalline all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient to the dangers of exhaustion and shock consequent on the fatigue of removal from bed. 7. These remedies may be given without danger to the youngest patients in suitable doses, and, indeed, their beneficial effects are more decided and unfavorable consequences are less observable than with adults.

(To be continued.)

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting of the Academy was held May 5, 1887, the President, A. JACOBI, M.D., in the chair.

DONATIONS TO THE ACADEMY.

Dr. FRED. A. CASTLE, Treasurer of the Board of Trustees, acknowledged the receipt of seventy thousand dollars from Mrs. Hosack, as a building fund, given in honor of her deceased husband. Mrs. Hosack also gave ten thousand dollars, or as much thereof as might be necessary, to acquire a bed in Roosevelt Hospital to be known as the Hosack Bed, the occupant of which is to be a deserving physician; its control to be under the officers of the Academy.

It was announced also that five thousand dollars had been received for a library fund, to be known as the Philippine Meyer and Ernst Jacoby Library Fund.

A memoir of Dr. H. P. FARNHAM was read by Dr. P. A. MORROW.

ON THE ULTIMATE RESULTS OF THE MECHANICAL TREATMENT OF HIP-JOINT DISEASE—AN ANALYSIS OF FIFTY-ONE CASES OCCURRING IN THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

The paper was by Dr. NEWTON M. SHAFFER, of New York, and Dr. ROBERT W. LOVETT, of Boston. Dr. Shaffer read the paper.

The more conservative methods of treatment had not received the attention they should. The object of the paper was to show the results of such treatment. The cases were drawn from the dispensary class only. Private cases, those from the hospital, and those upon which exsection had been performed, were eliminated from the list. The object was to show the ultimate result of strictly-speaking mechanical treatment of hip-joint disease in dispensary patients. No case was considered which had not been under the care of the institution from the time of entry to the final discharge; no case was considered which had not been discharged cured at least four years prior to the investigation; no case was considered unless it showed unmistakable signs of disease at the time of the first examination; none was considered which had not been at least two years under treatment; none was considered which had not been seen or examined after the investigation was commenced; all cases coming under these exclusive conditions were classified and reported. These conditions, the writers thought, must satisfy even the most exacting critic.

From 1877 to 1882, seven hundred and seventy-eight patients with hip-joint disease were treated in the dispensary. During these five years one hundred and sixty-eight patients, or 21.59 per cent., were discharged cured; fifty died with disease dependent upon the hip-joint condition. It might be stated that many, if not all, of the cases were experimentally discharged as cured before they were entered as actually cured.

The general plan of treatment was as follows: the long Taylor traction splint was applied soon after the first examination; unless the recumbent position was necessary, or the disease was so acute as to demand rest, the patient was allowed almost unlimited exercise in the open air. He was to call at the dispensary every week or two. The aim of treatment was to overcome any mechanical disadvantage acquired before the treatment was commenced; to protect the diseased joint from traumatism; to permit the patient to have almost unrestricted out-of-door exercise; to maintain the best position of the limb, or reduce deformity to a minimum if anchylosis occurred.

In no case was any operative measure employed, except occasionally to open an ab-

scess, but abscesses were not interfered with, as a rule, unless there were positive indications for the knife. As a matter of experience, abscesses connected with hip-joint disease did no better under antiseptic conditions than those under simple incision, and neither did better than when opening took place spontaneously.

The long splint without any joint at the knee was used from the beginning to the end of the treatment. In private practice, where the patients could afford to pay for it, a splint with joints was employed.

Of the entire number of cases treated at the dispensary from 1875 to 1882, only fifty-one coming under the restrictions of this paper could be traced. Of these fifty-one cases four had died: two of meningitis, two of pneumonia. Six of the patients had had a relapse. They had been under treatment two and one-half, four, four, four, five, and seven years respectively; two remained well three years, two four years, and one five years before a relapse occurred. In one case the relapse was due to a fall from a cart. Of the cases which had relapsed one had afterwards entered a hospital for excision at the hip, two were still wearing the traction splint and were nearly cured a second time, one was on crutches slowly improving, the remaining two had been cured a second time by the traction apparatus. The remaining forty-one cases had been examined excepting two, which were well. Of the thirty-nine cases examined four had been under treatment two years, four for two and a half years, nine for three years, six for three and a half years, eight for four years, two for four and a half years, two for five years, one for six years, one for six and a half years, one for seven years, and two for eight years. Of the thirty-nine cases, the disease had lasted before they came under observation for a less time than six months in eight cases, between six months and a year in eighteen cases, between one and two years in three cases, between two and three years in five cases, six years in one case, seven years in one case, nine years in one case, and for an indefinite time in two cases.

Of the thirty-nine cases, twenty-seven had one or more abscesses at some stage of the disease; twelve had none, but the latter were by no means the least marked cases, or those in which the best results were obtained. There was shortening of the limb as much as one and a half to two inches in all of the cases excepting two; in these there was no shortening. The amount of shortening did not seem to depend upon the presence or absence of abscess. In one case there was six inches shortening. The two cases cured without any shortening were cured before the tenth year of age. Eighteen cases cured before the tenth year represented an aggregate of twenty-five inches shortening, while nineteen cases cured after the tenth year represented in the aggregate thirty-eight inches shortening. The shortening was principally in the femur; the tibia shared it to a certain extent. The difference between the length of the two limbs almost invariably increased slowly after the disease had been cured, but the shortening did not increase indefinitely. In the cases in which eight or ten years had elapsed between the two measurements, no greater shortening was present at the last measurement than existed two or three years after the cure.

In no case was the difference in the circumference of the two thighs less than one inch. It would appear there might be a maximum of muscular atrophy with a minimum of bone-shortening, and *vice versa*. It seemed the nutrition of the muscles, bones, etc., in hip-joint disease received a shock from which it never afterwards recovered.

In nineteen cases there was practically anchylosis of the joint: in twelve of these there had been abscess, in four no abscess; with slight motion there were four cases with abscess, two without abscess; from ten to forty-five degrees of motion, five cases with abscess, two without abscess; with ninety degrees of motion, three cases with abscess, no case without abscess; with perfectly free motion, two cases with abscess, one without any abscess. Examination proved that motion became less as time went by. In two cases in which there had been ninety degrees of motion several years ago there was at the last examination only thirty degrees.

In fifteen of the cases in which there was little or no motion at the articulation there was no flexion of the thigh; the limp in these cases was trivial. In the cases in which the angle between the flexed thigh and the body was one hundred and twenty to one hundred and thirty-five degrees the impediment to motion was not serious, except in one case, in which there was caries of the lumbar spine. Permanent adduction of the thigh was a much more serious matter. Adduction was likely to occur after removal of the splint and increase up to a certain point. Adduction was present in thirty-three cases, but in only one was it very troublesome.

In only one case of forty examined was there anything which approached at all to true lateral curvature of the spine.

DISCUSSION.

Dr. LOVETT, of Boston, made some remarks, and said he considered adduction the most important factor in cured cases of hip-joint disease. There might be a good deal of bone-shortening with little inconvenience in walking, but slight shortening from adduction caused the gait to become ungainly.

Dr. RIDLON thought the paper showed that cases of hip-joint disease could be treated successfully at a properly-equipped dispen-

sary. He thought some cases were based on a tubercular, others on a syphilitic diathesis; some had a traumatic origin. He would also employ therapeutic measures.

Dr. KETCH said the advantage of the mechanical treatment was not alone in obtaining good final results, but in relieving the patient of pain and enabling him to go about during the treatment.

Dr. LEWIS A. SAYRE thought that, whatever the predisposing cause, the cases could be traced to some traumatism as an exciting cause. He thought the results of treatment regarding motion were much better in his private practice than in the cases seen in dispensary practice by Dr. Shaffer. He was a strong advocate of mechanical treatment, but there were conditions in which excision of the dead bone should be performed, otherwise the patient would die from amyloid degeneration of internal organs.

Dr. V. P. GIBNEY had become a convert to the mechanical treatment of hip-joint disease. The results in cured cases seemed in two respects to be different from what orthopædic surgeons usually led their patients to hope for. It was shown by these statistics that the shortening increased for a time, instead of diminishing, after the cure; further, that the diminished size of the affected limb was not overcome.

Dr. JUDSON thought a large shoe on the instrument or affected limb, instead of the small one usually worn, might tend to make adduction in walking more difficult, by preventing the patient from taking his weight off that limb as quickly as he was inclined to do.

Dr. TAYLOR, Dr. L. H. SAYRE, and Dr. SHAFFER continued the discussion.

NEW YORK PATHOLOGICAL SOCIETY.

A STATED meeting was held June 8, 1887, the President, T. MITCHELL PRUDDEN, M.D., in the chair.

Dr. PUTNAM JACOBI presented for a candidate a specimen of

ACUTE ATROPHY OF THE STOMACH, WITH FATTY DEGENERATION OF THE HEART.

Dr. DUDLEY presented

THE UTERINE APPENDAGES

of a girl aged 22. At the age of six years the patient had had smallpox, from which she made a good recovery. From six to twelve years of age she had the exanthemata and diphtheria. At twelve she would occasionally faint, and at times complained of headache. At maturity her headache grew steadily worse, and was most severe at the menstrual period. She was then put under the care of a physician, who made the diagnosis of hysteria. Another physician treated her for rheumatism, a third for chronic meningitis; a fourth applied electricity, which made her condition worse; a fifth treated her for rheumatism of the brain. Finally she came under the care of Dr. Hammond, who treated her for brain-congestion, together with other symptoms. She was always of a lively disposition when not in pain. She had never had a true spasm. Dr. Hammond placed her in the care of Dr. Dudley, who found that she was well nourished, that her menses were regular. She suffered no pain except in the head until lately, when she had pain in the side one week before and one week after menstruation. She had taken large quantities of medicine, and had been treated by almost every means for the relief of her nervous condition. She had been a masturbator for years, but said she had given up the habit some months past. The vulva was so hyperæsthetic that a physical examination was very difficult. The meatus was surrounded by a large caruncle. From a superficial examination he found the uterus retroverted, and the ovaries and tubes correspondingly low. At a second examination without ether, he was able only to replace the uterus. Saturday last he examined her under ether. The left ovary seemed to be small; the right ovary seemed to be somewhat enlarged and very sensitive. After consultation, and having obtained the previous consent of the patient, and of her brother, who was a physician, it was decided to make an exploratory operation. The right ovary was found somewhat enlarged, and contained a cyst about the size of an English walnut; the tube was tortuous, and the fimbriated extremity was bound down below the ovary; the ovary and tube were removed. The left ovary was found to be small, and contained a small cyst; the tube was tortuous and bound down to the pelvic floor, and quite close to the intestine; beneath it was a large varix. This ovary and tube, together with the varix, were removed. The patient had since done well.

A point of special interest in the case related to the varicose veins. This was the third case of the kind which he had operated upon during the past year. In all there had been failure to relieve the reflex symptoms by various ordinary measures, such as repairing a lacerated cervix, curetting for a fungous condition of the uterus, the administration of drugs, etc. In the first two cases the pain in the side and other reflex symptoms disappeared after removal of the ovaries and varix. The ovaries were not much enlarged. In the third case the operation had very recently been performed. Dr. Dudley thought that inasmuch as a varicocele in the male might give rise to almost all kinds of reflex symptoms, so also might an analogous condition exist in the female.

Dr. PUTNAM JACOBI thought it would be interesting to know whether or not the small ovary was the seat of interstitial ovaritis. Two years ago she reported three cases in

which the ovaries did not present any very marked lesion when examined macroscopically, but when examined microscopically there was found degeneration of the arteries and the signs of interstitial ovaritis, and she thought this was much more the cause of the severe nervous symptoms which had existed than was any slight cystic degeneration. In fact, a cyst of considerable size might exist and cause no suffering or tenderness when pressure was made over the abdomen. She referred to the case of a young lady, who, before coming East, had undergone at least one year's continuous treatment in a Western State for symptoms related presumably to an existing enlargement and prolapsus of both ovaries. The treatment by galvanism was continued, and an attempt was made to replace the ovaries, and a boro-glyceride cotton tampon was introduced into the vagina. At first this local treatment seemed to be beneficial, but the relief proved to be only temporary, and the tampon after a time seemed to cause irritation. Local treatment was then discontinued two or three months, during which time the patient received simple massage, to some extent electrical massage, the cold pack with rubbing, and general treatment. Under this plan the pain in the back and the nervous symptoms generally had entirely disappeared, also the tenderness on pressure over the ovaries, although the organs remained prolapsed and enlarged. Dr. Jacobi had seen at least two or three cases in which the enlarged and prolapsed condition of the ovaries had continued after relief of all the apparently associated symptoms.

Dr. DUDLEY requested that his specimen be submitted to the Committee on Microscopy. The request was granted. Referring to the remarks of Dr. Putnam Jacobi, he expressed the belief that cotton tampons with boro-glyceride produced their beneficial effect by causing contraction of the vessels and reducing uterine congestion. He did not think that in his case there had been acute ovaritis; the patient had not complained of pain in the region of the ovary until very recently. As to the relief of symptoms by cotton tampons containing glycerin, he had two cases of prolapsus of both ovaries and tubes in which such treatment would cause almost entire disappearance of the symptoms for a month or two, but they would return with each new exposure to cold, over-exertion, etc.

Dr. PUTNAM JACOBI thought that in the case related by her the uterus was perfectly healthy, and the tampons had produced only slight relief, whereas the general treatment had caused entire cessation of the subjective symptoms.

The PRESIDENT said it was so seldom one found a normal ovary that it was difficult to obtain a sufficient number for demonstration before students. Interstitial ovaritis was very common, even in cases in which there had been no history of symptoms associated with it during life.

Dr. W. P. NORTHRUP asked Dr. Dudley whether he had noticed in his cases any of the changes in the features alleged to take place after removal of the ovaries.

Dr. DUDLEY replied that in none had he noticed any change, excepting that usually there was an increase in flesh, and some patients complained of flushes in the head after removal of the ovaries.

EPILEPSY—BONY EXCRESCENCES ON THE INNER SURFACE OF THE CRANIUM.

Dr. THATCHER presented the skull of a colored woman, aged about 35 years, who had complained of severe headaches for three years, which she thought were due to menstrual troubles, of which she had some. There were chronic changes in the kidneys, but no diagnosis of kidney-disease had been made by the physician in charge. The urine had, according to the report, been of fairly high specific gravity and contained no albumen. There was no history of venereal disease. During the past three months the patient had had occasional attacks of vertigo, with loss of consciousness and falling to the ground. The attacks became more and more frequent towards the end of life. She gradually weakened and died. The diagnosis made was epilepsy. There were found, at autopsy, bony excrescences on the inner surface of the frontal bone, and some calcified masses in the dura mater. The dura was closely adherent to the skull.

REMOVAL OF THE RIGHT HALF OF THE LOWER JAW BY SLOW ENUCLEATION.

Dr. JOSEPH W. HOWE sent a man who in October last received a severe blow on the under surface of the chin, exposing the bone. The wound was sewed up at St. Luke's Hospital, but failed to unite. The jaw afterward became much swollen and painful, and the patient sought admission to St. Francis's. Dr. Howe made an examination early in November, and found a swelling extending from the symphysis to the posterior part of the ramus of the jaw on the right side. A small sinus led to the dead bone. The teeth were loosened, the alveolar processes were stripped bare, were rough, and bathed in pus. The periosteum was separated along the upper line of the jaw back to the ramus, and in some places was completely destroyed. The lower teeth were removed from the jaw the following day, and a portion of the periosteum separated. This process of separating the periosteum was continued for several weeks, the parts were thoroughly cleansed, and the general health was looked after. With the stripping of the bone the periosteum gradually thickened so as to increase the swelling on the affected side. Finally, he was

able to pull out the diseased jaw, leaving behind a good basis for a new jaw in the ossifying periosteum. The patient, when presented, had a new jaw, which had grown from the periosteum of the old jaw.

A CASE OF INTUSSUSCEPTION.

Dr. W. P. NORTHRUP presented the specimen, removed from a boy aged 5 months, who was cared for during his illness "between" two or three physicians, which would account for the meagre history and lack of diagnosis. The child was strong, and had had no previous disease. Forty-eight hours before death, the record stated, he had severe diarrhœa, with vomiting. During the last twelve hours the vomiting increased in severity, and the diarrhœal discharges became bloody mucus. The patient cried shrilly, and had "inward convulsions." Death took place forty-eight hours after the commencement of the symptoms. At the autopsy the abdomen was tensely distended. The distention was found to be wholly of the small intestines. The stomach was empty, the colon and rectum collapsed. The small intestines were normal, except that there was a little swelling of Peyer's patches. The colon and rectum were smeared with blood-stained mucus. The only lesion found was a tumor four inches long, an inch and a quarter thick, round, firm, the color bluish, which was found to be an invagination of the cæcum into the transverse colon. The latter was in normal condition, the former deeply congested. The gut was believed to be not gangrenous.

TREATMENT OF ALOPECIA AREATA. — Schachmann (*Annales de Derm. et de Syph.*, vol. viii. No. 1) has followed successfully M. Vidal's treatment of alopecia areata by blisters. The whole surface of the area is blistered, the blistered surface being treated in the ordinary way. Generally within three days it is possible to apply another blister. Three, four, up to six or even ten blisters are used successively; and, in addition, the rest of the head is rubbed night and morning with a lotion consisting of water one hundred, turpentine twenty, ammonia five. When the affected surface is very large, or when the whole head is affected, the part to be treated is divided into fields, and the fields are treated successively. The circumference of the area is shaved to the extent of about a centimetre. Twenty-nine cases are related in which this method was employed. Ten of these were also treated by stimulating applications, such as pyroligneous acid and croton oil, which gave no good result in spite of long treatment. The duration of the malady never exceeded three months from the time the blisters were begun. In a number of cases it did not reach two months, and in others a cure took place much sooner. Sometimes the hair began to grow after three or four blisters.—*London Med. Record.*

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 17, 1887, TO JULY 30, 1887.

COLONEL D. L. MAGRUDER, SURGEON.—Granted leave of absence for one month, to take effect on or about August 10, 1887. S. O. 170, A. G. O., July 25, 1887.

Paragraph 13, S. O. 167, A. G. O., July 21, 1887, assigns LIEUTENANT-COLONEL A. HEGAR, SURGEON, to duty as member of Army Retiring Board convened at Governor's Island, New York Harbor, New York, *vice* COLONEL CHARLES SUTHERLAND, SURGEON, hereby relieved.

MAJOR D. G. CALDWELL, SURGEON.—Order relieving him from duty at Fort D. A. Russell, Wyoming, and assigning him to duty at Fort Assiniboine, Montana, is revoked. S. O. 168, A. G. O., July 22, 1887.

MAJOR P. J. A. CLEARY, SURGEON.—Ordered to Fort Assiniboine, Montana, instead of Fort D. A. Russell, Wyoming. S. O. 168, A. G. O., July 22, 1887.

MAJOR ELY MCCLELLAN, SURGEON.—Detailed as member of a board of survey to meet at the medical purveying depot, St. Louis, Missouri, on August 1, 1887. S. O. 173, A. G. O., July 28, 1887.

CAPTAIN S. G. COWDERY, ASSISTANT-SURGEON.—Granted one month's leave of absence, to take effect on or about July 24. S. O. 79, Department of Texas, July 13, 1887.

By paragraph 43, S. O. 162, A. G. O., July 15, so much of paragraph 1, S. O. 156, c. s., A. G. O., as directs CAPTAIN JOHN DE B. W. GARDINER, ASSISTANT-SURGEON, to report for duty at Fort Washakie, Wyoming, is revoked.

By paragraph 42, S. O. 162, A. G. O., July 15, so much of paragraph 1, S. O. 156, c. s., A. G. O., as relieves CAPTAIN GEORGE H. TORNEY, ASSISTANT-SURGEON, from duty at Fort Monroe, Virginia, is revoked.

CAPTAIN R. BARNETT, ASSISTANT-SURGEON. — Sick-leave still further extended six months, on account of sickness. S. O. 162, A. G. O., July 15, 1887.

CAPTAIN H. G. BURTON, ASSISTANT-SURGEON.—Sick-leave of absence extended three months. S. O. 171, A. G. O., July 26, 1887.

CAPTAIN E. F. GARDNER, ASSISTANT-SURGEON.—Ordered for duty at Fort Reno, Indian Territory. S. O. 170, A. G. O., July 25, 1887.

CAPTAIN A. W. TAYLOR, ASSISTANT-SURGEON.—Now at Fort Laramie, Wyoming, is ordered for temporary duty at Fort Robinson, Nebraska. S. O. 162, A. G. O., July 15, 1887.

FIRST-LIEUTENANT C. S. BLACK, ASSISTANT-SURGEON.—Ordered for duty as post-surgeon, Fort Bliss, Texas, during the absence on leave of Captain S. G. Cowdery, Assistant-Surgeon. S. O. 79, Department of Texas, July 13, 1887.

FIRST-LIEUTENANT W. D. MCCAW, ASSISTANT-SURGEON.—Ordered for temporary duty at Fort Riley, Kansas. S. O. 78, Department of Missouri, July 25, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDING JULY 23, 1887.

FESSENDEN, C. S. D., SURGEON.—Granted leave of absence for thirty days, on account of sickness, July 18, 1887.

MEAD, F. W., PASSED ASSISTANT-SURGEON. — Granted leave of absence for thirty days, July 19, 1887.

YEMANS, H. W., PASSED ASSISTANT-SURGEON.—Granted leave of absence for thirty days, July 23, 1887.

BROOKS, S. D., PASSED ASSISTANT-SURGEON.—Promoted and appointed Passed Assistant-Surgeon from July 1, 1887, July 21, 1887.

WHITE, J. H., ASSISTANT-SURGEON.—To proceed to Washington, D. C., as escort to an insane seaman, July 18, 1887; ordered to examination for promotion, July 23, 1887.

WATKINS, R. B., ASSISTANT-SURGEON.—Leave extended fourteen days, on account of sickness, July 20, 1887.

MAGRUDER, G. M., ASSISTANT-SURGEON.—To proceed to Galveston, Texas, for temporary duty, July 21, 1887.

PHILADELPHIA, AUGUST 20, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE ON THE TREATMENT OF SUMMER COMPLAINT.

Delivered at the Medico-Chirurgical Hospital of Philadelphia

BY WILLIAM F. WAUGH, A.M., M.D.,

Professor of Practice of Medicine, and of Clinical Medicine, in the Medico-Chirurgical College, etc.

THE treatment of summer complaint, or cholera infantum so called, has not been hitherto very satisfactory by the methods usually employed. Mild cases recover under the most varied methods of treatment, while severe cases in unfavorable weather usually die. In all forms of the disease it must be admitted that well-directed hygienic management of the individual and his surroundings is of the first importance. As organic substances decompose rapidly in hot weather, the utmost care should be taken to remove all animal and vegetable impurities from the premises and immediate neighborhood. In one of my cases, where the family resided near the Delaware River, every rise of the tide filled the house with the effluvia from the cesspool, which communicated directly with the river by means of an untrapped drain. This child improved every day while absent from home at the Sanitarium, but became worse when brought back to the house for the night. Another child, it was noticed, was worse whenever it was taken into the kitchen, where one wall was constantly damp from the leakage from a neighboring vault.

The custom has heretofore been to rely mainly upon milk as the proper food, if not the only food, for infants. The investigations of Vaughan, resulting in the discovery that the poisonous tyrotoxicon can be generated in milk under certain conditions, have cast a serious doubt upon the innocuity of this food. Apart from this, it would seem *a priori* that a more unsuitable food for infants in hot weather could scarcely be found. Leaving out of consideration the question of the communication of disease from the animal supplying the milk, and the adulteration of it, especially with impure water from barnyard wells, it may be noted that, of all animal products used as food, milk is the most prone to decompose and to absorb poisonous emanations from surrounding sources. Should you place a pan of fresh milk in a refrigerator with a bit of tainted fish, in an hour you would find that the milk will not only have taken up the odor of the fish, but will have acquired its poisonous properties; so that any person drinking the milk will be as likely to have cholera morbus as if he had eaten the spoiled fish. To this proneness to decomposition, if we add the confessed necessity of absolute *surgical* cleanliness in preparing the milk for the child's use, it may well be said that a more dangerous food—for city children, at least, in hot weather—could not readily be devised.

My experience with summer complaint previous to the present summer has not been satisfactory. Several times I thought that I had found a remedy, but subsequent experience did not fulfil my first anticipations.

In summing up the treatment of this disease, Meigs and Pepper give a formula containing "Haller's acid," and state that the authors intend to "give it a trial next summer." That final sentence speaks volumes of the utter failure of the methods used previously, and of the realizing of the necessity for some more efficient agent; and yet of the unwillingness of the physician, when confronted with a desperate case, to trust untried remedies. I have known scores of physicians who, at the close of a disastrous summer, were going to try "Haller's acid" next season; but the first serious case of next summer found them back at their calomel, bismuth, etc.

I have tried Haller's acid, and found it possess no properties superior to the aromatic sulphuric acid.

When the present season opened, I determined to adopt a different system from any I had previously used. First, I excluded milk rigorously from the food of every child who suffered with any form of bowel disorder or "summer complaint." I restricted the diet to the white of egg mixed with three times its bulk of cold water, with stale bread toasted in the oven until a rich dark-brown color throughout, and then rolled into a powder and softened with boiling water. In some cases I gave Lactated Food, and in one Malted Milk, each with good results. I endeav-

ored to obviate the exhaustion due to sweating, by restricting the amount of fluid imbibed, and by giving plenty of salt with the food. To diminish the effects of excessive heat, I ordered a tub of tepid water to be placed in the middle of the room, and the child allowed to get into the water whenever he desired, and remain in it some minutes. In one case the improvement began with the first bath.

The choice of medicinal agents will, of course, depend upon the view taken of the pathology of the disease.

Hayem has recently given the results of some very interesting investigations upon the nature of the green diarrhœa which is so common in the French foundling asylums. He found that this green diarrhœa disappeared most promptly when lactic acid was given in doses of six to nine grains daily; that the disease very uniformly reappeared until the precaution was taken of disinfecting the stools as soon as they were voided, by placing them in a solution of corrosive sublimate (one to one thousand). These measures completely eradicated the disease from the institution, and it did not reappear until a new child entered who brought the affection with it. In every case it was found that strict enforcement of the antiseptic precautions caused the disappearance of the diarrhœa.

A microscopic examination of the green stools revealed the presence of a peculiar microbe, to which Hayem attributes the disease. To this I attach but little importance, as the modern bacteriophile who goes hunting with his little microscope rarely fails to bring home game.

But there are other reasons for considering it probable that the symptoms of summer complaint are really due to the circulation in the blood of a poison generated by micro-organisms in the gastro-intestinal tract.

We have learned to associate the hot head, icy extremities, intense fever, and abdominal pain occurring in puerperal cases to the presence of decomposing substances in the uterus. We know also what prompt relief follows the removal of these noxious matters. Such relief could not be obtained were the symptoms due to the presence of microbes in the blood, and the fact that the relief does occur shows that the generating cause is removed.

So, also, in severe cases of naso-pharyngeal diphtheria, with the frightfully fetid breath we have constitutional symptoms markedly resembling those of puerperal septicæmia. There is the same intense fever, the burning forehead, and icy feet. The relief which follows a thorough cleansing of the throat and the nasal cavities is greater than would be believed possible by those who have never taken the pains to do it. That this relief is not always lasting, as it is in puerperal septicæmia, is due to the fact that in diphtheria there is a true migration of bacteria into the blood, where they multiply undisturbed by our therapeutics.

Now, in severe cases of summer complaint we have a train of symptoms strikingly similar to those of the two diseases just mentioned. We have the intense fever, burning head, hot and tender abdomen, cold extremities, and stools whose fetid odor gives evidence of decomposition.

Few children die of diarrhœa except when chronic enteritis remains after the subsidence of the acute attack. Death is usually due to fever, with symptoms of hydrocephaloid or cerebral paralysis.

Taking this view of the pathology of summer complaint, we have a definite basis for our therapeutics. We need no longer wage a guerilla warfare, a little war of outposts and detachments, but we can bring the matter at once to issue in a pitched battle. We can attack our as yet unknown enemy by throwing germicidal shells into his camp.

As we are ignorant of the peculiarities of this particular germ, we can only ascertain the most suitable germicide by experiment. I concluded to begin the season with the sulpho-carbolate of zinc, and not to lay it aside until I had demonstrated its inefficiency. Thus far the success of the method has been such that no reason for a change exists. Out of nearly thirty cases treated by myself and Dr. Taylor there have been no deaths. These cases covered every grade of the disease, including catarrhal gastro-enteritis, inflammatory entero-colitis, and true cholera infantum. At first the zinc salt was given in doses of $\frac{1}{16}$ grain every two hours, with one to five grains of bismuth. As the remedy was well borne, the dose was increased to one-fourth grain for a child in its second summer. The first and invariable effect has been to stop the vomiting. The stools became less offensive, although

in some cases they continued to be copious and frequent. In these cases we gave enemata of flaxseed tea containing five grains of the sulpho-carbolate and half a drachm of bismuth. This proved effectual in all cases.

Intense fever was met by antipyrine in doses of one to two grains. This drug appears also to have a disinfectant action upon the stools.

When the child has improved somewhat, mutton-broth with rice has been added to the diet; then weak coffee, brandy, meat (to be sucked), especially salt meat, and chicken jelly.

Whether this plan of treatment will withstand the test of subsequent experience remains to be seen.

The sulpho-carbolate of zinc has the advantage over naphthalin and salicylic acid of being more palatable and less irritating to the stomach. Antipyrine has the same advantages over quinine, when an antipyretic is required. That the bismuth had but little action except as a vehicle we proved by occasionally giving it without the zinc salt.

ORIGINAL COMMUNICATIONS.

REVIEW OF PROGRESS IN MEDICAL AND SURGICAL ELECTRICITY.

BY WILLIAM R. D. BLACKWOOD, M.D.

GALVANO-CAUTERY IN UTERINE AFFECTIONS.

A SYNOPSIS of results obtained in diseases of the endometrium and in fibroids was lately given in the *British Medical Journal*, the methods employed being those of Apostoli principally. Dr. Lucien Carlet embodies the result of this plan in a monograph, "Du Traitement électrique des Tumeurs fibreuses de l'Utérus," and Apostoli follows in another, "Sur un nouveau Traitement de la Métrite chronique, et en particulier de l'Endométrite, par la Galvano-caustique chimique intra-utérine." Full histories of several hundred cases are given, and the conclusions drawn may be thus summarized:

1. The method is essentially the application of a constant and continuous current to the uterus.

2. The seat of application is always the whole extent of mucous surface.

3. If the cavity is unattainable, a puncture is made, followed by galvano-caustic action, thus making an artificial channel.

4. The active intra-uterine pole must always be positive in hemorrhagic fibromas or in accompanying obstinate leucorrhœa; negative in dysmenorrhœa.

5. The greatest possible strength must be used up to the limit of toleration,—one hundred to two hundred and fifty milliampères.

6. From five to ten minutes must elapse before effective cauterization is attained.

7. The applications are repeated according to the size and solidity of the tumor or extent of diseased tissue, generally bi-weekly.

8. The presence of active hemorrhage is not a contra-indication for electrolysis.

9. To overcome pain or eschar, the abdominal electrode is of potter's clay applied over a wide surface.

10. The operation is virtually a cauterization with a high degree of electro-chemical action.

11. Proper applications bring about rapid elimination of fibroid tumors; hemorrhages are arrested, and health is assured.

For some years past we have advocated strong currents as perfectly safe in pelvic work, although the profession has tied itself down to a maximum of forty to fifty milliampères. Apostoli goes up to two hundred and fifty milliampères, and we have repeatedly excelled that by one hundred milliampères without injury.

Dr. Woodman Webb reiterates all the above in a published letter, after observing the practice of many operators and comparing results in electrolysis with the usual surgical procedures. Many interesting communications on this subject appear in the *British Medical Journal* for May, June, and July, by eminent authorities.

In some rare cases galvano-cauterization is not immediately applicable. These exceptions are of three kinds: those of extreme temporary excitability (hysterical); those called by Apostoli "*entérite glaireuse*;" and those presenting a subacute form of perimetritis. Such conditions must be overcome by appropriate treatment prior to employing electricity. Occasionally perfect intolerance is observed, according to Webb and others.

This we do not for a moment believe, as the physical operation of electrolysis is available in any case despite any or all nervous accompaniments. Under anæsthesia, any needed electrical procedure is readily carried out, and hysterical complications cannot in any degree influence the result of such treatment. With delicacy of manipulation, knowledge of the physics involved, and definite diagnosis, no danger is possible.*

ELECTROLYSIS IN CYSTIC OVARIAN TUMORS.

Dr. Semeleder has read before the Academy of Medicine of Mexico a memoir reporting the results in forty-five cysts treated by electricity, the outcome of which was so satisfactory as to lead him to endorse strongly the procedure before resorting to the ordinary enucleation by abdominal section.

ELECTRICITY IN LACTATION.

Aubert (*London Medical Record*) alludes to the use of faradism in undeveloped mammary glands after parturition, and strongly advocates its value. In one instance two applications secured a full supply of milk, and other cases are noted.

Becquerel relates the case of a woman who, after eight days' suppression, was able to nurse her baby, and in whom the quality of the milk also was improved. The suppression resulted from intense mental emotion.

Pierron supports the above testimony by relating the notes of a large number of cases occurring since 1884 in his practice, in which electricity either re-established the function after suppression or induced it when absent after normal labor.

As heretofore stated, we have found static electricity always reliable as a galactagogue after the failure of all other procedures; but faradism will, of course, be available in any case where electricity is indicated. To be efficacious the treatment must be prompt and thorough, both breasts being included in the circuit at each sitting.

ELECTRICITY IN TEDIOUS LABOR, AND IN POST-PARTUM HEMORRHAGE.

The patient, a primipara, 23 years of age, suffered with albuminuria and excessive œdema. Uterine contraction was feeble at first, and then entirely absent. After twelve hours of fruitless effort to establish pains, an interrupted current was used, and labor terminated satisfactorily. Some two hours later hemorrhage occurred profusely, and, failing with vinegar, hot water, etc., the doctor again used the battery. Contraction was readily secured, and the bleeding did not recur.—*Guice de Fayette.*

ELECTROLYSIS IN ANEURISM.

Dr. Robert Abbe has recently reported the results of Barwell's method of treating aortic aneurism by the introduction of coils of fine wire and the subsequent passage of an electric current. In cases referred to in the practice of others, the tumors became solid, but the great defect appears to be in delaying until the sac is extremely thin and ready to rupture. Neither suppuration nor embolism has been noted thus far in any instance, and the formation of a firm clot is apparently obtained more certainly by this method than by the simple introduction of horsehair, catgut, or wire. As thoracic aneurisms are certain to progress, would it not be well to try the electrolytic plan as here described before the tumor has grown much, and whilst its wall is firm? The operation is within the ability of any practitioner owning a battery.

Obelar relates a case of aortic aneurism with horribly painful angina, in which galvano-puncture with twenty cells was employed. The needles were separated about one inch. The dysphagia was relieved, the general health renewed, but the tumor was only restrained from growth for a month.

Brancaccio relates a similar case in which four applications enabled the patient to return to his work. Dying from pneumonia three years later, a post-mortem disclosed a sacciform dilatation the size of an orange, completely filled with a firmly-organized clot, which could not be penetrated by the finger. The wall of the aorta was elsewhere sound, and in this instance the cure by electrolysis was proven. —*London Medical Record.*

DANGER OF ELECTRICITY IN OPIUM-POISONING.

In a paper read before the New York Academy of Medicine recently, Dr. Andrew H. Smith referred to the application of electricity to the phrenics in the neck in severe opium-poisoning. Dr. W. H. Thomson warned those present against in-

* See New York Medical Record, August 13, for latest report by Apostoli.

discriminate electrical applications about the throat, as did also the late Dr. Gasper Griswold. In a contribution elsewhere* we adverted to the necessity of care in direct electrization of the heart, and our remarks were based on known instances of improperly-conducted applications, in some of which serious damage was done. The danger in such cases is specially to be guarded against in dispensary and hospital work, in which the resident-physicians have had little practical experience with electricity, and the safest plan then is to gently stimulate the thoracic muscles by rapid labile applications, with an occasional touch over the solar plexus. In either instance one pole may be placed at the nape of the neck, and the other used as indicated. Electricity is not nearly so serviceable in opium-poisoning as the general opinion holds it to be, and, although we have frequently used it with advantage, we value the usual antidotes much more.

ELECTROLYSIS IN VASCULAR NÆVI.

Pitoy has obtained very satisfactory results in this form of dermic lesion through galvano-cautery, and with but little cicatricial marking. He advises the use of small platinum needles, and always makes the distance between the points of entry and exit not more than eight millimetres. When a distinct white zone is produced between these points the needle is withdrawn. If removed sooner, hemorrhage is liable to ensue. (*Annales de Derm. et de Syph.*, vol. viii. No. 1.) The reason why disfiguring scars so often result from cautery in nævi, in our opinion, is that too much electric force is used, and bleeding is produced by inserting the needles too deeply and removing them before the characteristic white surface is produced. The needles should also not be too fine, as it is difficult to induce whitening over a sufficiently large area at one sitting unless they are thick, and ulceration likewise is more apt to follow cautery with very small puncture at high heat.

GALVANO-CAUTERY IN SALIVARY FISTULA.

Dr. George Buchannan reports in the *Glasgow Medical Journal* the case of a lady suffering with a fistulous tract following an enormous carbuncle of the neck below the ear. The incision made left a sinuous tract unhealed for thirteen years, through which saliva flowed at each meal during mastication. The whole length was cauterized by the loop, and it healed firmly in two weeks, with little scar.

TREATMENT OF ENLARGED TONSILS.

Drs. Knight and Robinson, of New York, advocate strongly galvano-cautery in enlarged tonsils, with special reference to cases promising much hemorrhage. The former obtains definite cures with few sittings, although the rule is that the process is slow in most hands. Our plan for a long time has been to paint the tonsil with strong carbolized iodine before puncture, and to go into the centre of the gland in half a dozen places at each operation, allowing three days to elapse between dates. Neither hemorrhage nor sloughing has ensued, and we believe the method a good one where the patient objects to cutting or where bleeding is feared. Cocaine is also used of late.

ELECTRICITY IN ANGIOMA.

Dr. Julian Alvarez speaks very favorably of electricity in the treatment of angioma, and, using Onimus's apparatus, he plunges the positive electrode into the tumor, whilst the negative is moved about either over the mass externally or as close to it as possible. He gives excellent results in a large number of cases.—*Revista Balear.*

HYDRO-ELECTRIC BATHS IN NERVOUS AFFECTIONS.

Dr. R. Wagner, of Giessbach, describes several cases of neurasthenia, cardiac neurosis, etc. (*British Medical Journal*), in which his conclusions are that bipolar baths (galvanic and faradic) have these advantages:

"1. They possess special power as sedatives in excitable patients of neurotic tendency.

"2. Sleep, appetite, and the general tone are improved more readily thus than in any other method.

"3. The pulse-frequency being diminished during the baths, they are therefore to be strongly advised in angina pectoris and other cardiac neuroses."

Even were electric baths of value in any case whatever (which we doubt, beyond the effect on the imagination), the employment of them in angina would be fraught with danger, and the unavoidable delay in preparing the bath in acute at-

* Review of Progress in Medical and Surgical Electricity. Philadelphia Medical Times, July 10, 1886.

tacks would be criminal. Nitrite of amyl is the remedy, and arsenic in the intervals is better than electricity in any form.

FARADISM IN CHRONIC LARYNGITIS.

In persons who as vocalists are obliged to use their voice before thoroughly cured, faradism is found by several specialists to be of special value. At the recent meeting of the American Laryngological Association this point was sustained by several speakers. In conjunction with mild astringent sprays some four hours before using it, the voice is readily toned up by faradism, although complete rest is advisable after the emergency is past.

STATIC ELECTRICITY IN THE TREATMENT OF DISEASES OF THE SKIN.

For the past year Dr. Frank B. Carpenter, of New York, has been using static electricity in the treatment of diseases of the skin. He has found it particularly useful in diseases of the skin of neurotic origin. In seven consecutive cases of alopecia areata treated by that method exclusively, the hair ceased to fall after a few applications, and new hair soon commenced to grow. The more recent the cases, the more rapid was the improvement. The duration of the disease in these cases varies from three months to eighteen years. The youngest patient was ten years of age; the oldest was thirty-eight.

In the treatment of three cases of alopecia præmatura by the same method, the results were sufficiently encouraging to warrant the belief that static electricity will not only prevent the baldness, but will restore the hair when it has already fallen.

In five cases of zoster treated only by the static current, the neuralgic pains were much diminished. It appeared to check the eruption, preventing the formation of vesicles when used early in the disease, and causing them to desiccate, thus forming a protective covering when the vesicles had already formed.

In several cases of severe pruritus genitalium, more satisfactory results were obtained than by any other method of treatment he has used. He has found it of use in the treatment of lichen planus and dermatitis herpetiformis.

The reviewer has during the last eight months been trying a series of experiments with static electricity and faradism in alopecia dependent principally on debility consequent upon fevers. So far success has been encouraging, much more so than that otherwise secured by stimulating hair-tonics. He has not found it necessary to cut the hair or to shave the scalp, as is usual where the hair falls profusely. A rheophore saturated with distilled extract of witch-hazel is used on the scalp, and it is closely applied, the spark occurring at the discharging-rods of the machine.

Reference has been made in these columns before as to the value of electricity in pruritus and in herpes zoster.

THE PROJECTION OF PARA- AND DIA-MAGNETIC MOVEMENTS OF LIQUIDS.

Ricco gives the following simple method of illustrating the different effects produced by the electro-magnet upon para- and dia-magnetic liquids. The rays from a candle are collected by means of a convex lens and reflected from the plane surface of the liquid to be tested, the image being received on a white screen. The current is then turned on. If the liquid is amagnetic (or neutral), no effect is produced; otherwise the image is scattered or confused. If the liquid is para-magnetic, the image can be caused to reappear by bringing the screen nearer the liquid surface or by removing the lens, and the new image will then be drawn out, indicating the cylindrical formation of the liquid surface. When the liquid is dia-magnetic, the image reappears on removal of the screen to a greater distance or upon the substitution of a shorter focus-lens, thus proving the convexity of the liquid surface.—*L'Elettricita.*

GALVANISM IN EXOPHTHALMIC GOITRE.

The patient, æt. 28, a nurse, under the care of Dr. W. B. Hadden, of London (*Braithwaite*, July), with extreme exophthalmos and much suffering from pressure on the trachea, had been unsuccessfully treated by drugs. The current (galvanic) was passed from the nape of the neck to the thyroid and eyeballs—strength not stated—for ten minutes twice daily. The cure occupied a month, and no return of the disease was noted after prolonged observation. In a paper by the reviewer* on this subject, the efficacy of galvanism

* Philadelphia Medical Times, April 23, 1881.

in severe cases was shown, and none of the cases narrated in that paper have had a return of the disease in the six years which have passed. Nothing except electricity is used in such cases, provided the patient is strictly under our care; and several interesting examples have been treated since the publication of the paper referred to. The method used is: positive to the cervical pneumogastric, negative to the solar plexus; thirty to seventy-five milliampères for fifteen minutes daily.

WAKING NUMBNESS.

Within six months past a few cases of this rare affection have been reported, and to these may be added two coming under the charge of the reviewer.

The first, a gentleman of decided nervous type,—a bank clerk,—was troubled for some four years, at first at intervals of a month or more, but recently every two or three days. The anæsthesia covered the abdomen and one-half of the right lateral thorax, and the sensation was that of deadness. The skin was decidedly benumbed as to sensation, and sharp pricks with a pin were not felt if the eyes were covered. The phenomena commenced on waking, and lasted from ten to forty minutes. No gastric or renal disorder was discovered. The patient was referred to me for electrical treatment by his family physician.

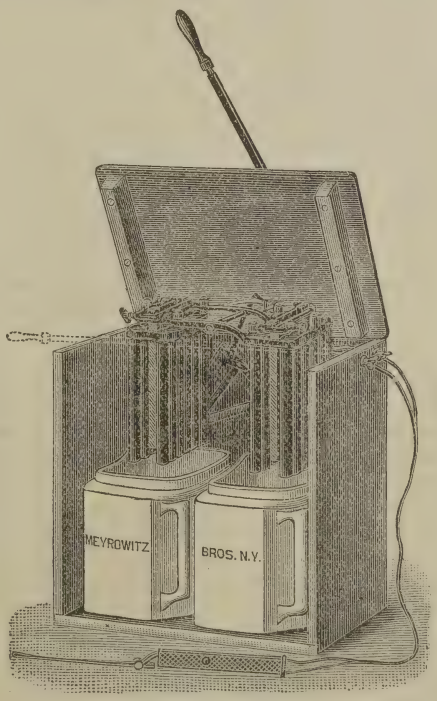
The second case was that of a young lady in my own practice. She was apparently in vigorous health. The disorder had lasted three weeks when I took it in hand. The sensation was such as prevails after pressure upon any large nerve. She was not anæsthetic so far as painful tests were concerned, and there was hyper-excitation after the disappearance of the numbness. The sensation was confined to the thigh and hypogastric region of the left side. It lasted about ten minutes after rising in the morning. In this case pressure over the left ovary at any time precipitated an attack, which, however, would last some five minutes or less. She always slept with the limbs extended: hence pressure could not be the determining cause whilst asleep.

Galvanism cured both patients,—central applications with the male, and positive to the ovary with negative to the foot in the female. From fifty to one hundred milliampères were given for fifteen minutes daily in each case. The first required a month's treatment, the second ten days only.

NEW GALVANO-CAUTERY BATTERIES.

Mr. A. F. Fleishmann, of this city (1812 Market Street), has devised an ingenious modification of the Bunsen type for cautery purposes. The apparatus consists of six cells with multiple plates, and the commutator couples either for quantity or intensity as may be desired. Any degree of immersion is attainable by a ratchet mechanism, and either or all of the series of plates may be employed at one time. A careful test maintained the cautery electrode at a definite heat for two hours continuously, and the battery requires very little attention.

Messrs. Meyrowitz Bros., of New York, have presented a cautery apparatus with novel features. The cells are accessible



from the front of the case: they are readily emptied without spilling, from their possessing a handle and lip, and the plates are submerged or raised by an ingenious lever-movement. The action is very prompt, and polarization is avoided to a great extent. Of the many new types, this is an exceedingly desirable one for

galvano-caustic purposes or where quantity-currents are desired.

NEW BIPOLAR ELECTRODE.

At a late meeting of the Paris Academy of Medicine, M. Dujardin-Beaumetz presented an electrode devised by Professor Apostoli for localizing currents. The olivary point is carbon, divided in the median vertical line by a thin insulating strip of gutta-percha, and from its construction it is incorrodible. It is evident, however, that no such use as that of a cautery instrument could be made of it, as the insulation, whether of vulcanite or gutta-percha, is readily destroyed by low heat.

INCANDESCENT SEARCH-LAMP.

Dr. Dent, of St. George's Hospital, has had Messrs. Woodhouse & Rawson, the eminent London electricians, make for him an incandescent lamp of high power within small compass, which is specially valuable in abdominal surgery. The low temperature allows the globe to be placed within the cavity, so as to render translucent the omentum, the bowel, etc., and thus add to the sense of touch that of sight. One side of the globe is frosted to prevent dazzling, and the bulb and conductors can be bathed in sublimate or other antiseptic solutions with impunity.

THE TOXIC AGENT IN CASES OF POISONING BY ICE-CREAM.

BY GEORGE S. HULL, M.D.

DURING the past few years cases of ice-cream poisoning have been quite frequently reported, and there have been numerous investigations into the cause of the trouble. As far as the writer has been able to follow the literature of the subject, no *one* theory seems to be sufficiently plausible to be accepted as correct. Among the numerous reasons given by experts the following are most noteworthy: keeping the milk or cream in unclean vessels, especially in copper cans; exposing it to a polluted atmosphere; obtaining it from cows that have been improperly fed or cared for; and, finally, adding corn-starch, etc., to it, and allowing fermentation to set in, thus generating ptomaines by reason of the micro-organisms present. The latest and most generally liked theory is that advanced by Professor Vaughan, whose careful study of tyrotoxicon has given him such deserved prominence. The interesting history of the discovery of this poisonous compound, its simple manner of isolation, and the skilful and painstaking analysis of it, which proved it to be diazobenzol, are all too well known to be repeated. However,—and without attempting to array myself against this theory,—I wish to mention a few facts which seem to militate against the supposition that ice-cream poisoning is most generally due to the presence of this ptomaine.

The peculiar ferment or micro-organism which generates tyrotoxicon is not yet known, and even the precise conditions under which it develops have not yet been ascertained. It is true that milk containing the micro-organism will, when added to pure milk and kept at a temperature of about 98° with a limited supply of air, readily inaugurate the process which generates this particular ptomaine,—which, however, is said to be ephemeral, further fermentation breaking it up into other compounds; also, a temperature much less than that of boiling water destroys it, and a freezing temperature, while not fatal to its production, certainly should not be favorable to the micro-organisms which are said to generate it.

It would seem reasonable that milk, which is consumed in such vast quantities, and which is so carelessly handled as regards proper temperature, clean vessels, and pure atmospheric surroundings, should very frequently be put in the very conditions (we know not precisely what they are) which would favor the development of the micro-organism and the consequent production of the tyrotoxicon; and then that very often it should be taken into the stomach just when the poisonous ptomaine was most abundantly present, and before it could undergo further change and become converted into other and perhaps less harmful compounds. All this seems highly probable, and the result should be the quite frequent poisoning of people from drinking milk. Now, whether this actually be the case or not, the fact is that the *reported* cases of ice-cream poisoning are out of all proportion to the ratio of consumption of milk to ice-cream,—unless we believe cholera infantum to be due to the ingestion of tyrotoxicon, as has been suggested.

Let us see whether the conditions which are so favorable to the formation of tyrotoxicon in milk obtain in any like degree

in the manufacture of ice-cream. It is well known that most ice-cream mixtures are boiled before being subjected to the freezing process, thus destroying any micro-organism present; this is the case particularly when corn-starch, gelatin, etc., are components. After the mixture is subjected to the low temperature of freezing, the likelihood of the formation of germs is very much lessened, although this condition may not be fatal to micro-organisms which may have been developed previously and not destroyed by boiling. So we have reason to believe that the conditions which so much favor the formation of tyrotoxicon in milk do not exist in nearly so great a degree as regards ice-cream. I am aware, however, of the fact that ice-cream, after being sterilized by heat and put into the freezer, may be allowed to melt, and after a time be re-frozen, thus being placed in a condition which may favor the production of tyrotoxicon; or the rancid butter adhering to some carelessly-cleansed cans may start the process by reason of the butyric acid present.*

I merely present the above brief reasoning to bring out the anomalous condition of affairs which must hold if, after eliminating cases of poisoning in which foreign poisons have been maliciously added to ice-cream, tyrotoxicon should be urged as the sole cause of the trouble; and I repeat that, considering how little ice-cream is consumed compared with the quantity of milk used, the ratio of the cases of poisoning seems out of all proportion. This thought is what led the writer to devote some time to the study of this interesting and important subject, and to the performance of numerous experiments with various ice-cream mixtures,—a brief notice of which has already gained publicity.

As there could be found no reports of investigations as to what went on within the freezer during the process of freezing, it was determined to confine the study to this part of the subject; to examine closely the modern ice-cream freezer, and to see if the ice-cream mixture, after having been proved to be pure and innocuous before being put into the freezer, *could generate any poisonous substance during and after the process of freezing.*

Upon looking into the construction of the modern ice-cream freezer, I found it, with very slight exception, to consist of a zinc-coated paddle and a tin or copper can; the bottom of the can was in most cases heavy iron coated with zinc. Here, it struck me, was a first-rate galvanic cell: zinc the positive element, and tin or copper the negative. The elements also were in contact. It was only necessary to find out how good an electrolyte the ice-cream mixture as variously made was, in order to ascertain the proportion of zinc dissolved in each case. A miniature ice-cream freezer was constructed and numerous experiments performed. Instead of the dissimilar metals being in direct contact, as in the freezer, they were connected by a copper wire and a moderately sensitive (astatic needle) galvanometer introduced into the circuit. It was evident that if the galvanometer-needle was at all deflected it would indicate that a current of electricity was passing, due to chemical action between the zinc and the mixture within the freezer; that the zinc was being dissolved; and, further, the amount of deflection would indicate the degree of chemical action, *because the current causing the deflection would be in proportion to the amount of chemical action.* By this means we could find out which ice-cream mixtures would dissolve the most zinc, and so become the most dangerous to the consumers.

In order to institute a comparison between the different ingredients used in making ice-cream, pure cream was first tested. At 32° F. it caused a deflection of seven degrees, showing that the zinc was being dissolved to some extent. The following table will give an idea of some of the results obtained:

Distilled water	No deflection.
Hydrant water	8 degrees.
Cream, sweet (unfermented)	7 "
" sour (fermented)	90+ "
Milk, sweet	40 "
" sour	90+ "
Equal parts of milk and cream, sweet	25 "
" " " sour	90+ "
" " " with sugar and vanilla—sweet	58 "
Equal parts of milk and cream, with sugar and vanilla—sour	90+ "
Equal parts of milk and cream, with sugar and corn-starch—sweet	45 "
Equal parts of milk and cream, with sugar and corn-starch—sour	90+ "
Equal parts of milk and cream, with sugar and eggs and corn-starch—sweet	80 "
Equal parts of milk and cream, with sugar and eggs and corn-starch—sour	90+† "

* Professor Vaughan claims that the bacillus butyricus, or some ferment which develops along with it, will inaugurate the process.

† By 90+ is meant that the needle is deflected to a right angle to the current, and the only comparison that can be made between mixtures which cause such amount of deflection is by noticing the force with which the needle swings past this point. By using a less sensitive instrument these acid mixtures could readily be compared.

The fruit ice-creams caused deflections of from fifty to ninety plus degrees when sweet (unfermented), as also did the water-ices. I have endeavored to embody in the above table the most common forms of ice-cream mixtures, so as to give an idea of what can be found out by using the galvanometer in this way. It will be noticed that pure cream has the least action upon the zinc, and if ice-cream, as its name leads one to infer, were *always* made from *pure cream*, there would be but little cause for alarm.

These figures go to show *most positively* that the ice-cream which causes most deflection of the needle is the one which dissolves most zinc, and hence is the one most likely to cause poisoning. Another conclusion easily arrived at is that the longer the zinc is in contact with the material in the freezer the larger the quantity of the zinc dissolved.

Now it is in order to explain why, if zinc is always dissolved in some degree by ice-cream as made in the modern freezer, ice-cream poisoning is not more general, and why it breaks out violently at times and produces wholesale poisonings. I would volunteer the following. Ice-cream is ordinarily frozen in from ten to thirty minutes; then the paddle taken out and the mixture "packed" and set aside to harden. This, unless the mixture is quite acid, is too short a time in which to dissolve very much zinc, and so generally no bad results follow. And yet there are not a few persons who complain that ice-cream but seldom agrees with them; it disorders their sensitive stomachs, they know not why. However, when the mixture is put into the freezer warm and allowed to stand awhile before being frozen (high temperature being more favorable to the chemical action); or when a number of freezers are prepared and frozen one after another (allowing the zinc in the last to be a long while in the mixture); or when the mixture is "turned" (one manufacturer told me he could make smoother and better ice-cream if the mixture was "a little bit sour"); or when acid fruits are present; or when the ice-cream has been allowed to melt and partially ferment, and then have fresh material added to it and be refrozen; and *especially* when salt by any mishap gets into the freezer (I have been told that small quantities of salt are sometimes added to certain ice-creams to improve the taste); then we have favorable conditions for the formation of poisonous salts of zinc.

In looking into the recorded cases of ice-cream poisoning, it is noticeable that most of them have occurred at picnics, at banquets, on holidays, etc. For picnics the ice-cream is generally made the day before, and the paddle, it is likely, allowed to remain in over-night, so as to refreeze in case of too much softening; thus allowing plenty of time for the chemical solution of the zinc. The large manufacturer may have a superabundance of orders for a holiday; he makes quantities of the ice-cream mixture and puts it into his freezers, there to await its turn at having the power applied for freezing, and the family who get the contents of the last freezer are in great danger of being poisoned. It has been proved long ago that well- or spring-water will dissolve small quantities of zinc, especially when chlorides are present.*

Milk also has been shown to act upon the zinc vessels which contain it,† and it has been the object of this paper to direct attention to the fact that dangerous amounts of zinc may be dissolved, *owing to the faulty construction of the modern ice-cream freezers.*

These facts go to show that in order to prevent metallic matter from being dissolved, no metals forming poisonous salts should be placed in contact and kept in any liquid intended to be taken into the stomach; also, that any metallic vessel which is to hold liquids for human consumption should be of one kind of metal, and that in its purest state, as other metals, if present in it, will set up local action, and thus cause a more rapid solution of the positive element. Indeed, in order to be thoroughly safe, all metals which form poisonous salts with ordinary acids should be avoided in the construction of such vessels.

While upon this theme, I might direct fresh attention to the fact that the harmless (?) soda-water is guilty of dissolving deleterious quantities of lead, etc. Beer, also, which is kept in zinc-lined vessels

* Zieurek found in water contained in a zinc cistern no less than one drachm of zinc to the gallon. The same water showed only six grains of sodium chloride to the gallon.

† M. Schaufféle, by keeping milk in a zinc vessel for fifteen days, found that the zinc was dissolved to the extent of three hundred and fifty grains to the gallon; while, when kept for the same length of time in a zinc-coated (galvanized-iron) vessel, four hundred and eighty grains to the gallon was the amount dissolved. This latter fact is significant in this connection.

with copper or brass spigots may add sufficient mineral poison to the other poisons it already contains to become extra-hazardous. Even the innocent buttermilk may suffer serious contamination in the same way.

Dentists, all unconscious of the distinction, may, I have thought, be called "practical electricians," because they are constantly putting small galvanic cells into the mouths of their patients. Plugs of gold, silver, and "amalgam" (tin, silver, and zinc rubbed up with mercury) are put into the same mouth, to be bathed by the saliva (a fair electrolyte), thus constituting galvanic cells, and frequently the dissimilar metals are brought into contact, the result being a small current of electricity (sometimes strong enough to be felt) and the solution of some metal, which is generally swallowed; but this is probably too trifling to merit much attention.

Fruit-cans have tin and lead (solder) in contact, and as these are exposed to the juices of acid fruits we may readily estimate the danger; we know something of the sickness caused by canned fruits. In order to show the mischief worked in other directions, I will mention one of many instances. Machinists often complain of their inability to keep copper or brass tubes which are fitted into iron boilers perfectly tight; the steam in time will leak out. Here we have iron and copper as the two elements, and, if the water in the boiler contains saline matter, we have a galvanic cell on a small scale, but sufficient in time to eat away enough metal to cause a troublesome leak.

In conclusion, I desire to state that there is no intention to claim that ice-cream poisoning is *always* produced in the way I have detailed. I merely wish to offer the thoughts of this paper as additional to what has been advanced on the subject. The tyrotoxicon theory will help explain those cases of ice-cream poisoning in which the mixture has not been boiled or has been allowed to melt after having been frozen; and the theory which the writer has outlined may help explain what remains.

It might be well to add that where tyrotoxicon is present the zinc salts should the more abound, as the ptomaine is developed in an acid mixture, and acid fluids are most favorable to the solution of zinc.

CHAMBERSBURG, PENNSYLVANIA.

REMARKS ON THE BACILLUS OF LEPRA, WITH MICROSCOPICAL PREPARATIONS.

BY J. P. CROZER GRIFFITH, M.D.,*

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THE specimens from which the preparations shown this evening have been made are chiefly from a case which occurred in Demerara, but of whose clinical history I can learn nothing. There is also a microscopical slide prepared from leprous skin which I obtained in Vienna.

Some understanding of the pathological histology of the disease is necessary before studying the nature and distribution of the micro-organisms.

The infiltration of lepra consists of granulation-tissue, under the microscope much resembling that of lupus, except that it is not so much divided into nests as in the latter affection, nor is there so great a supply of blood-vessels. The deposition of lymphoid cells takes place primarily in the corium, and extends thence along the course of the blood-vessels towards the surface and into the deeper layers of the subcutaneous tissue. The production of giant-cells and the occurrence of retrograde metamorphoses are to be observed both in lepra and lupus.

A preparation from one of the nodules of the Demerara case has been stained with hæmatoxylon and is exhibited under one of the microscopes on the table. It will be seen to be composed of an accumulation of lymphoid cells covered by a thin epithelial layer. There are comparatively few blood-vessels to be found, and the tubercle presents an almost uniform appearance throughout, except for the scattered bands of connective tissue which divide it into poorly-defined lobules. The lymphoid elements are situated in an alveolar net-work, and in many places giant-cells may be observed. A very similar appearance is that of a transverse section made from the terminal phalanx of one of the fingers, in which even the bone has been destroyed by the disease. This preparation is also exhibited under one of the microscopes, and the uniform infiltration of all the tissues below the *rete Malpighii* will be noticed. Around the blood-vessels the cells are gathered in greater numbers,

* Communication read before the Philadelphia Pathological Society.

often forming concentric nest-like groupings. The walls of the vessels are frequently thickened by the infiltration, and a partial obliteration of the lumen is often to be observed, the latter being caused by a proliferation of the endothelial lining.

Other sections of the finger and of the nodule have been double-stained in order to show the *Bacillus lepræ*. The method adopted was the well-known one of Ehrlich for staining tubercle-bacilli, using either fuchsin or gentian violet,—followed in the first case by methyl blue or by the sulph-indigotate of potash, in the second case by Bismarck brown. The best results were obtained with the fuchsin and methyl blue.

The bacilli are usually described as slender, rod-shaped bodies of a length equal to one-half or one-third the diameter of a red blood-cell, often joined end to end in short chains or gathered in bundles, almost invariably lying in the great "lepra cells," and only rarely to be seen in the intercellular tissue. Under one of the microscopes I have placed a slide from the specimens of leprosy obtained in Vienna. This exhibits bacilli corresponding with the usually accepted description. Here the huge lepra cells, crowded with the microbes, are shown to perfection, and no scattered bacilli are to be seen. But in the Demerara specimens shown this evening the micro-organisms are spread throughout the whole tissue, including even the epithelial layer, though here they occur but sparsely. That they are to be found among the epithelial cells, and even in the hair-follicles and in the hairs themselves, had been denied by most writers, but has since been affirmed by Unna,* and later by Touton† and Neisser. You will be able to see them very distinctly among the epithelial cells in the specimens shown this evening. Elsewhere in the tissue they appear to a slight degree massed in regularly round or oval lepra cells, but chiefly free, and either isolated or in irregularly-shaped groups of various sizes. Their occurrence to so great an extent free in the tissues has been claimed by Unna,‡ but has been hotly contested by Hansen, Neisser, and Touton. If true, it removes one of the most characteristic differences between the arrangement of the bacilli of lepra and those of tuberculosis. Unna declares that the lepra-cell never contains a nucleus, and that it is, in fact, nothing more than an aggregation of bacilli held together by mucoid material. The appearance of the bacilli in the specimens from Demerara indicates the probable accuracy of this view. There is too much variation in the size and too great an irregularity in the shape of the aggregation to warrant the belief that they are situated in a cell, and neither nucleus nor cell-wall can be detected.

Unna's method of preparation was somewhat peculiar. The sections, after being stained and cleared in oil, were dried with blotting-paper and then *over the flame* until the oil was evaporated, and were then mounted in balsam. Other specimens were stained, then transferred directly from water to a cover-glass, warmed over the flame to absolute dryness, and mounted in balsam, thus avoiding the use of oil. These methods are said to show the bacilli in unusual numbers. Hansen§ and Neisser‖ believe that Unna's method destroys the cells, and that on this account, therefore, the bacilli have appeared to lie free in the tissue and lymph-spaces. Hansen does not deny that they may lie in the lymph-spaces, but thinks that when properly treated they will be found *in cells* in these spaces. He brings forward other arguments to support his view, among others that the bacilli can never be found in the blood. Neisser makes the same statement. Kobner, however, declares positively¶ that they do occur both in the white blood-corpuscles and in the serum. He finds them free in the intercellular tissue as well as in lepra cells, but never in the epithelial layer.

Although not fully prepared to express an absolute conviction, yet the appearance of the specimens exhibited this evening makes me inclined to adopt the view of Unna with regard to the position of the bacilli in the tissue. I have avoided the special methods of preparation which he employed, and can see no reason why those which I have used should destroy the lepra cells, if indeed these bodies really are of a cellular nature. It is a curious circumstance, too, that while the specimens from Vienna show bacilli in lepra cells alone, those from Demerara

* Deutsch. Med. Zeit., December, 1885, S. 14.
† Virchow's Archiv, civ. 381.
‡ Loc. cit.

§ Virchow's Archiv, ciii. 388. ‖ Ibid., 355.
¶ Virchow's Archiv, lxxxviii. 282.

reveal scarcely any such structures, but are crowded with microbes lying free in the tissues. They have been prepared in precisely the same manner. Whether it is that these cells, or masses of mucus, or whatever they may be, at some time in the course of the disease burst, or in some way become destroyed and spread the bacilli broadcast, I do not know, but it would seem at least possible. Dr. Lyell, of China, says, in a personal communication, that he easily finds the bacilli in the lymph from the leprous vesicles. This seems to be a proof that, even if Hansen's view is correct regarding the position of the microbes in cells in the lymph-spaces, these so-called cells must break down very readily and set the bacilli free.

TRANSLATIONS.

Evolution of the Tonsils.—At a recent meeting of the Paris Biological Society, M. Ed. Retterer made the following communication concerning the evolution and constitution of the tonsils in the human subject. Th. Schmidt, Kölliker, His, etc., explain the formation of follicles in the tonsils by the differentiation of the mesodermic cells. According to these authors, the epithelial elements do not take any part in the formation of the follicles. M. Retterer concludes from his observations that this explanation is erroneous, and gives the following description of the evolution of the tonsils in human beings, from the fœtal period to an advanced age.

In a fœtus of three and four months old, the initial phenomena are more particularly the folding back of the epithelium of the isthmus of the throat and the penetration of several invaginations into the chorion of the mucous membrane. As these invaginations become longer a central space is created; moreover, the epithelium with which they are invested remains stratified, and in its evolution gives rise to epithelial globules which undergo all the modifications of keratinization. The chorion becomes thicker where it surrounds these globules, owing to the proliferation of the mesodermic tissue and the accumulation of young connective-tissue cellules, which form cellular laminæ which are traversed from the beginning with numerous blood-vessels. Towards the fifth month the primitive involutions give rise to a series of epithelial buds which appear on their periphery, and principally on their lowest extremity. These buds press from all sides into the mesodermic laminæ, which continue to be the source of an active growth. When the epithelial buds are cut perpendicularly to their axes, they present the aspect of cylinders joined by one of their extremities to the primitive invagination; when they are transversely cut, they present the aspect of epithelial masses surrounded on all sides by young connective tissue. These evolutionary characteristics, which at the onset resemble those accompanying the formation of the nipple, are continued until birth takes place, when the whole tonsillar formation begins to appear on the surface of the isthmus of the throat.

At the age of two or three years, the aspect presented when the tonsils are cut as above described differs considerably from that presented when they are cut in the preceding evolutionary stages. The primitive involutions begin to take the form of cryptæ or diverticulums which connect the interior of the tonsillar mass with the isthmus of the throat. The terminal buds become gradually separated from these diverticulums through the interposition of the mesodermic laminæ between these buds and the involutions from which they proceed. This circumstance is analogous with that observed in the separation of the neuro-axis from the epidermis, and with the manner in which the crystalline and the auditine vesicule are isolated and detached from the corneal layer through the interposition of a mesodermic layer.

Towards the age of from three to six years, masses which are purely epithelial rarely remain in the connective tissue. The epithelial masses have not disappeared through resorption or degeneration; they are the centre of an active proliferation. The epithelial buds contiguous at the outset to the connective tissue are gradually penetrated from their periphery by cells and fibres of cellular tissue, which are inserted between the epithelial tracings and separate these from each other. An analogous phenomenon takes place in the development of the liver. At this period, which is characterized by a uniform appearance of the tonsillar tissue (*infiltration diffuse*), closed follicles (*follicules*

clos) begin to develop in the tonsil. These follicles are grouped in one or more series around each diverticulum, which is the remnant of the primitive involution and represents the centre of a tonsillar lobe. The lobes are separated from each other by a septum composed of connective tissue. The appearance of closed follicles results from the more noticeable development of the connective tissue in the space which existed at the outset between the epithelial buds. From thence the connective-tissue stroma extends to the centre of the buds, whilst the fibres of this stroma, being stretched out, form a net-work with larger interstices. The blood-vessels follow this principle and exhibit a similar disposition.

In advanced age the closed follicles diminish in size, and even disappear in certain places. The immediate cause of this phenomenon is the increased number and thickness of the connective-tissue trabeculæ, which invade the mass of closed follicles and give a uniform aspect to the tonsillar tissue. At the same time, empty spaces presenting the form of alveoli are observed. Of these, the most recent enclose cellular *débris*. Under the influence of reagents crystals of margarin appear. This is the final stage of the evolution of the tonsils, characterized by the fatty degeneration of the elements themselves and by hypertrophy of the connective-tissue stroma.

The development and evolution of the tonsils in human beings may be summed up in the following manner: (1) the production of epithelial convolutions and increased thickness of the chorion; (2) the formation and subsequent detachment of the terminal buds; finally, the penetration into each element of the mesodermic stroma and the ectodermic tissue. The existence of follicles only lasts while the separation of the connective tissue is more accentuated in the peripheral portions than in the central portions. The retrogressive stage follows closely upon the fibrous transformation of the stroma, and gives an alveolar appearance to the tonsillar tissue.

Exhalations of Carbonic Acid in Infectious Diseases.—At a recent meeting of the Académie des Sciences, M. Arloing presented some remarks on the exhalation of carbonic acid in infectious diseases determined by aërobic microbes and anaërobic microbes. If the microbes are aërobic, they rob the blood-corpuscles of their oxygen, and deprive the tissues of their necessary comburant or agent of combustion (bacillus anthracis, microbe of chicken-cholera).

If the microbe is anaërobic, and acts as such in the organism, then oxygen should be a hinderance to the manifestation of its properties (gangrenous septicæmia). Between two animals which succumb, one through the inoculation of the aërobic microbe, and the other through the introduction of the anaërobic microbe, important differences are met with in respect to the intensity of respiratory combustion.

The diseases which M. Arloing chose for these experiments are affections which sometimes attack the human species: malignant pustule and gangrenous septicæmia. In these two diseases M. Arloing found that the quantity of carbonic acid exhaled diminished during the course of the malady, and especially during the few hours before death. In the case of malignant pustule the modification appeared to begin with the first effects of inoculation; while in gangrenous septicæmia there is for a few hours a slight augmentation in the quantity of carbonic acid exhaled. In both cases there is a diminished respiratory combustion.

A Case of Total Extirpation of the Uterus and Nephrectomy at One Sitting, with Recovery of the Patient — J. Schmidt reports in the *Münchener Med. Woch.* (1886, No. 40) the case of a woman, 49 years of age, upon whom the operation of extirpation of the uterus for malignant disease was undertaken. It was found that the posterior vaginal wall, the submucous tissue, and the right parametrium were infiltrated. After a tedious operation the uterus was removed, when it was discovered that with it had been taken away a portion of the right ureter about an inch in length. It was decided then to remove the right kidney by lumbar incision. The patient made a good recovery. The author recommends in similar cases, when the ureter has been injured, to proceed at once to extirpation of the kidney, and not to attempt to stitch the ureter in the vaginal wall, since the result would be gangrene or diphtheritic deposit in the vagina, from the constant flow of urine. — *Centralblatt für Medicinischen Wissenschäften*, 1887, No. 31.

PHILADELPHIA

MEDICAL TIMES.

PHILADELPHIA, AUGUST 20, 1887.

EDITORIAL.

CHLORAL HYDRATE.

THE death of a lady prominent in society of this city, following the administration of chloral, to which she had been accustomed to resort for the relief of nervousness, has shocked the entire community, and seems to call for a repetition of a warning of the danger of this drug. Unlike other agents of the class of narcotics, its effects seem not to be proportioned to the amount: what might be given at one time with perfect safety becomes on another occasion a lethal dose. This is partially explained by the manner in which it acts upon the nerve-centres. In the first place, it has a sedative influence directly upon the ganglion cells of the cerebral hemispheres and spinal cord, and ultimately upon the medulla; in the second place, it exerts an hypnotic influence indirectly by reducing the blood-supply of the brain, owing to the general dilatation of the arterioles elsewhere throughout the body. In ordinary doses, and as the rule probably, the indirect effect of producing relative anæmia of the brain is the effect which is sought after and obtained; where larger doses are given the direct effect becomes more marked.

It has been repeatedly observed that chloral is a dangerous drug, since patients accustomed to its use may be thrown into a fatal coma by doses smaller than those which they had frequently previously taken with impunity. Even so small a dose as ten grains has caused the death of an adult; while others have recovered without ill effect after swallowing an ounce. It is strange that this peculiarity has escaped the notice of so acute a therapeutist as Ringer, who says that "it has been given for months apparently without any bad results," and has much to say in its favor; but he neglects to mention its great danger when habitually resorted to for insomnia or nervous irritability.

We have observed that in some cases the fatal doses have been taken just after a meal, the coma rapidly supervening and the fatal termination occurring suddenly. Possibly the chemical changes incident to gastro-intestinal digestion may explain the excessive and otherwise unaccountable narcotic effect from the dose which is ordinarily taken with impunity when the stomach is at rest. It has been determined, from experiments made by Amory, that chloral ordinarily does not undergo decomposition in the body, and consequently does not liberate chloroform in the blood, as Liebreich affirmed. It is worth considering, however, whether Liebreich's original hypothesis may not be correct in these exceptional instances. Since, in the presence of alkali, chloral is readily converted into chloroform and formic acid, this may also occur, if not in the blood, at least in the duodenum when chloral, mixing with the food, passes through the pylorus to come at once in contact with the highly alkaline bile. Under such circumstances, given the coexistence of a weak, dilated, or fatty heart, the liberation of an amount of chloroform too small to escape by respiration, or at least too insignificant to make its presence evident to the senses, might rapidly prove fatal. There may be other explanations for these very sad accidents that have occurred from small doses of chloral hydrate, but this one is at least sufficiently plausible to warrant us in warning our patients against taking chloral just after eating a hearty meal, or, indeed, at any other time, unless under the direction of competent medical advice.

The quality of the chloral should also be taken into consideration, and for medicinal purposes only pure recrystallized chloral should be used.

RHUS-POISONING.

THE Board of Health of this city has acted commendably in ordering the removal of poison-ivy from cemetery-grounds on account of the many cases of poisoning which have lately occurred. If a similar rule were made and enforced with regard to all public parks, it would save much annoyance and suffering. There is, it is true, a great difference in the individual susceptibility to the effects of the poison, the resulting dermatitis venenata being in some a trifling affair, in others seriously threatening life. A case was reported to the County Medical Society of this city some time ago in which proctitis and peritonitis resulted from extension of inflammation from the anus, to which a leaf had been applied after defecation while on an excursion in the woods. In some instances direct contagion has been traced, as where a physician, after employing himself in pulling up a few weeds in a cemetery, stopped to see a patient and dressed a fractured forearm on his way home. Both physician and patient subsequently suffered with acute dermatitis, which was supposed to be erysipelas by the latter.

Owing to the different degrees of effect produced, varying from nothing at all up to a very acute and extensive inflammation, an opportunity for exact comparison of the value of remedies is wanting; hence the number of specifics. The first indication seems to be to counteract the poison (toxicodendric acid) by the application of an alkali (sodium carbonate, bicarbonate, borate, or hyposulphite); and the second is to relieve the dermatitis by sedative and anodyne applications. The combination of carbolic acid with oxide of zinc ointment (in the proportion of twenty to thirty minims to the ounce) has answered admirably in checking the spreading inflammation and relieving swelling and pain. It has been suggested by a correspondent of another journal that the alkaline solution of sodium carbonate be applied by dipping a piece of bread in it and placing it over the inflamed area; subsequently, if it become dry, water could be dropped upon it; thus making it in effect a bread-poultice. As it is claimed that it certainly affords relief to the pain, it seems that this is a good suggestion.

A FATAL ACCIDENT DURING ETHER-ANÆSTHESIA.

THE daily papers of this city have recently given an account of a fatal case during the administration of ether. In the midst of an operation for the relief from hemorrhoids of a middle-aged man, under the care of Professor Agnew, the patient suddenly stopped breathing and could not be resuscitated, although it is claimed that the heart continued beating for several minutes after respiration had ceased. The coroner's physician, Dr. Formad, made an autopsy, and discovered evidences of long-standing inflammatory and degenerative disease in the brain and medulla oblongata. The lungs were not engorged, but were collapsed. Death was probably due to the immediate shock of the operation or excessive apprehension; the lesions found were sufficient to cause death under any unusual excitement or emotion, but they do not correspond with the usual effects of ether when taken in a toxic dose.

THE COOPER HOSPITAL, of Camden, was opened formally on the 8th inst. The buildings and grounds, both presented by members of the Cooper family, cost over one hundred and twenty-five thousand dollars. Nearly two hundred thousand dollars is invested in a permanent endowment-fund, and twenty thousand dollars more will soon be added by a bequest, at the expiration of a life-estate, devised by Mrs. Jane V. Chambers, deceased.

LEADING ARTICLE.

ON THE DEGENERATION OF NERVES.

WHEN a section is made in the continuity of a nerve, the peripheral extremity undergoes changes classed under the name of degeneration.

At a recent meeting of the Biological Society of Paris, M. Arloing made a valuable contribution to the study of the degeneration of nerves and the trophic nerve-centre. The nature of this phenomenon has been differently described. M. Arloing considers it sufficient to begin by studying the modifications which take place at the end of the central extremity.

M. Ranvier has demonstrated that this region is the source of the generation and progressive extension of the axis-cylinder, and these exposed cylinder axis-buds are the starting-point of the regeneration of the peripheral extremity. M. Vanlaired has confirmed these statements. M. Ranvier concluded that the development of nerve-fibres in a pathological state begins in the central nerve-cells. This author did not, however, accept as the explanation that the axis-cylinder, killed by section, acts upon the nuclei and protoplasm so as to increase the activity of these, as a fragment of necrotic bone acts upon the neighboring portions. He rather believed that the nerve exercises a moderating influence upon its own nutrition, and that this influence is suppressed, after section, throughout the entire peripheral extremity. M. Arloing considers this to be a gratuitous hypothesis, but believes it probable that the axis-cylinder becomes sphacelated after its separation from the cell from which it proceeds, and produces all the characteristics of necrobiosis. M. Ranvier based his opinion on the fact that the loss of excitability in the peripheral extremity coincides with the segmentation of the axis-cylinder by the nuclei of the protoplasmic sheath. He concludes that the suppression of physiological properties—or, in other words, the mortification of the axis-cylinder—does not precede, but follows, the anatomical alterations. Consequently, this specific necrosis cannot be the cause of the alterations.

This argument appears irrefutable. But it is possible that mortification may begin in the peripheral segment of the cylinder-axis immediately after section, without causing the suppression of excitability or of conductibility.

Functional death gradually takes place in the peripheral extremity immediately after section, as is observed in large animals; organic death progresses simultaneously, and immediately exercises its influence upon the surrounding protoplasm.

This opinion, in conjunction with the important facts discovered by Augustus Waller, led M. Arloing to conclude that the trophic centres described by this author are simply the generating centres of the fundamental portion of the nerve-fibres. Consequently a fibre will present the phenomenon of degeneration when separated from the cell from which it proceeds, or when this cell loses its own properties.

The greater number of modern embryologists concur in the opinion that the rachidian ganglion proceeds from the medullary tube, but they are unable to explain the manner in which the posterior roots develop. Some believe, with Balfour, Hensen, Marshall, Kölliker, Bedot, that these roots proceed from the same substance which supplies the ganglion; others believe, with His, that they are formed by very thin fibres which proceed from the ganglion to the spinal marrow, or from the spinal marrow to the ganglion, according to Sagemehl. The opinion of His is the more probable.

The observations made by Waller upon the results consequent upon section of the posterior roots have proved that the centre of emission of their fibres resides in the rachidian ganglion. Thus, the cells of this ganglion are at the same time the emitting centre (*centre émissif*) of the fibres of the posterior roots, of the peripheral fibres, and of the mixed nerves.

This fact is true in the case of fishes as well as in mammals.

The Deiter nerve-process in the ganglionic cells of a dog is bipolar. The constitution of this process may be explained by bending the opposite poles of the cells of a fish towards each other. When this bundle of axis-cylinder filaments has extended to a certain distance it divides into two: one bundle proceeds towards the spinal marrow, the other towards the periphery. At the point where this division takes place an annular constriction occurs. This phenomenon invariably takes place at

the bifurcation of the pre-terminal nerve-fibres. The connecting fibre which unites the cells of the ganglion with the cells of the medullary tube is almost exclusively formed by the ganglionic cell.

When the spinal marrow is compressed in its continuity, degeneration progresses upward in the posterior cords and downward in the anterior cords. Modern anatomo-pathologists, or rather pathologists, deduce the following law from these facts: The columns of the spinal marrow degenerate according to the direction of the nerve-transmission.

It is more reasonable to ascribe these phenomena to the law of degeneration of radicular fibres, and say that degeneration in the fibres of the posterior cords proceeds upward, because their emitting centres (*centre émissif*) are situated in the spinal ganglia or the medulla, while the fibres of the posterior cords have their emitting centre in the cephalic portion of the cord. The cells which, in some species, are dispersed in the interior of the posterior cornua are simply supplementary cells (*cellules de relais*), placed on the track of the nerve-fibres which unite the periphery with the sensitive centres, or with the centres of ideation of the cerebral cortex. Analogous parts are also found on the track of the motor system. Waller's experiments show that the trophic centre, or emitting centre (*centre émissif*), of the motor roots is enclosed in the cord. The anterior spinal ganglia (if such an expression may be used) remain confounded with the medullary tube, though in some cases they are removed to a certain distance. Such is probably the signification of the ganglion placed on the passage of the hypoglossal nerve (Meyer, Vulpian, Toussaint). Among the cells of the anterior cornua there are some which bear the same relation to the anterior roots as the cells of the spinal ganglion bear to the posterior roots. These cells are produced without and within, and are connected on this side by the anterior roots and by their mediation with the psycho-motor cells, or with the supplementary cells (*cellules de relais*), interposed between these last and the trophic cells. The spinal marrow is not possessed of motor spontaneity. But it possesses reflex power: therefore it must be admitted that the supplementary cells are connected with the posterior roots. These relations remain to be determined.

The most interesting deduction drawn from these considerations is that concerning the precise function exercised by the cells of the anterior cornua. None of these cells are auto-motory. They receive their impulse from the cerebral cells. If this impulse ceases to proceed from the brain on account of the cortex being destroyed, or if it is prevented from reaching the medulla cells by the existence of a solution of continuity in the connective tissues, paralysis will exist simultaneously with sclerosis of the cords of the spinal marrow, while the anterior cornua and roots are intact.

If the suppression of motor impulse lasts longer, the degeneration which occurs in the fibres of the anterior cords reaches the supplementary cells (*cellules de relais*), then the emitting cells (*cellules émissives*), and, finally, the roots themselves. This probably happened in the case of M. Charcot's and M. Brissaud's observations, where muscular atrophy was always preceded by organic alteration of the cells of the anterior cornua.

If paralysis follow a medullary lesion, the alteration of the anterior cornua must necessarily follow. But it is possible that in a medulla lesion one group of the cells of the anterior cornua may be degenerated whilst the other is intact. In other words, a case may occur in which the trophic cells of the anterior roots are alone destroyed; in another case the supplementary cells (*cellules de relais*) may be the only ones deteriorated.

M. Arloing concluded his communication by remarking that all these facts corroborate the law of degeneration established by Waller.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

THE season of medical activity as displayed in societies and medical schools is over for the academic year 1886–7, and already the centre of interest is shifting to Dublin, where we are promised a most successful meeting of the British Medical Association. Dr. Banks, Regius Professor of Physics in the University of Dublin, presides over the meeting, and his presidential address consists chiefly of an historical sketch of the growth of the Irish school of medicine. He shows that in 1618 medicine became an integral part of the teaching of the

then young University, which, like Harvard, had been organized by Cambridge graduates. The candidate for a degree in medicine at that date was required to have studied for seven years after taking the M.A. degree, and at the end was required to engage in a public disputation; he was, moreover, required to afford proof that he had cured four cases of different diseases,—a very unusual and it would seem impracticable regulation, seeing that the degree to be obtained at this examination was his license to practise. The College of Physicians took origin in 1626, when Charles I. addressed a letter to Viscount Falkland "creating" a college after the pattern of the College of Physicians in London. One of the original Fellows of this college was Sir William Petty, an erratic genius, who, after filling simultaneously the apparently incongruous chairs of Anatomy and Music in Oxford, passed over to Dublin, became Physician to the Parliamentary army, then Clerk of the Council and Secretary to Oliver Cromwell, and finally, growing immensely wealthy, founded the family of which the Marquis of Lansdowne (Governor-General of Canada) is now the head. The College of Physicians got its present cumbrous title of the "King's and Queen's College of Physicans of Ireland" in 1699, when a new charter was granted to it by William and Mary. Sir Patrick Dun, who bequeathed money which was used for founding the hospital which bears his name, had been William's physician, and was the first president of the college. Dublin has altogether three hospitals founded by the munificence of physicians, the other two being the Steevens and the Rotundo Lying-In Hospital. Of the eminent men who belonged to the Dublin school of medicine in the earlier part of the present century it is hardly necessary here to speak at length. Dr. Banks mentions especially Dr. Cheyne, Dr. John Crampton, Sir Philip Crampton, Sir Henry Marsh, Dr. Graves, Dr. Stokes, and Sir Dominick Corrigan. The latest addition to Irish universities—the Royal University—is also one of the most vigorous, the total number of persons presenting themselves at the various examinations last year having been two thousand nine hundred and thirty-three. It is, I believe, the only university, besides the London University, in the United Kingdom which gives degrees to women. Last year the degree of B.A. was conferred on nine women, and the degree of M.A. on one, an event said to be unprecedented in university annals.

The address in medicine by Professor Gairdner also is an historical essay. He addresses himself to answer the question, asked in somewhat scornful wise by Sir William Hamilton, "Has the *practice* of medicine (that is, the art as distinguished from the science) made a single step since Hippocrates?" The general result at which Professor Gairdner arrives is that whatever hesitation might have been felt by an impartial observer in 1832, when the great Edinburgh Professor of Logic and Metaphysics propounded his mocking question, none can fairly be felt now. The permanent gains which he believes have been made are (1) the increased power of managing disease afforded by the lessons learned from preventive medicine; (2) the abolition of routine blood-letting; (3) the treatment of fevers *lacte non vino*, to quote the words of the Public Orator when an honorary degree was recently conferred on Professor Gairdner by the University of Dublin; and, finally and inclusively, an increased stability of the medical art, a more secure position in connection with demonstrable or demonstrated facts, so that it would be no longer possible for any man, coming forward with a new theory not based upon the careful study of facts, to make such a revolution in medical practice as John Brown, of Edinburgh, achieved a century ago, and "such as has been over and over again witnessed in the history of medicine almost from the days of Hippocrates."

Dr. Gasquet's address as president of the Section of Psychology is a plea for a more systematic study of the mental and moral as distinguished from the purely bodily phenomena of insanity. In the causation, he thought, greater attention should be given to the influence of the various passions,—jealousy, remorse, anxiety, grief,—which act, indeed, only by and through the nervous system, but in their nature and origin are mental rather than cerebral. While with regard to symptoms he contends that, speaking generally, it might be said that the bodily condition supplies the general direction which the insanity takes, while the details by which each individual seeks to account for his altered feelings are derived from his past mental experiences. He refers as an unsettled point to the question whether all the mental faculties are alike liable to perversion, or whether any laws of thought or processes of mind remain always normal so long as they are manifested at all. In conclusion, he asks whether the psychological side in the treatment of the insane has not been unduly neglected,—neglected, that is to say, not by individual physicians, but as a systematic method, the principles upon which such a system of treatment must rest never having been laid down.

In the Section of Medicine Dr. William Moore's address is very short, and is chiefly concerned with a comparison of the existing knowledge of the pathology of fever—by pathology is not to be understood morbid anatomy, but the "pathonomy" of Dr. Moxon—with that of thirty or forty years ago. He lamented that while in diagnosis and morbid anatomy precision was attainable, in prognosis and treatment we had not advanced beyond the domain of probability.

Sir George Porter in addressing the Section of Surgery is very brief, confining his remarks to a welcome; in the Sub-Section of Laryngology Dr. McNeill Whistler is not much more lengthy, but he suggests the formation of a Laryngological Association, which would afford better opportunities for discussing and sifting theories than laryngologists in this country at present possess.

The report of the Committee appointed by the Local Government Board to inquire into M. Pasteur's treatment of hydrophobia is very favorable to him. The Chairman of the Committee was Sir James Paget, and the other members were Dr. Lauder Brunton, Dr. George Fleming (Principal Veterinary Surgeon of the Army), Sir Joseph Lister, Dr. Richard Quain, Sir Henry Roscoe, M.P., and Professor Burdon Sanderson. Many experiments were conducted for the Committee by the Secretary, Professor Victor Horsley, F.R.S.

The report, first of all, refers to the preventive inoculation of dogs; after summing up the evidence it continues:

"It may, hence, be deemed certain that M. Pasteur has discovered a method of protection from rabies comparable with that which vaccination affords against infection from smallpox. It would be difficult to overestimate the importance of the discovery, whether for its practical utility or for its application in general pathology. It shows a new method of inoculation, or, as M. Pasteur sometimes calls it, of vaccination, the like of which it may become possible to employ for protection of both men and domestic animals against others of the most intense kinds of virus. The duration of the immunity from rabies which is conferred by inoculation is not yet determined, but during the two years that have passed since it was first proved there have been no indications of its being limited."

The contention that his system may be applied to the prevention of the development of hydrophobia in an individual already bitten by a rabid animal is, of course, a very different proposition. To it the Committee especially directed its attention: it is pointed out that the question cannot be answered by a mere numerical comparison of the cases treated and untreated, owing to (1) the impossibility of ascertaining with certainty in all cases whether the animals were really rabid; (2) the varying danger of bites inflicted through clothes or on the naked flesh, of bites treated or untreated by local cauterization, of bites which bleed freely or not; (3) the varying virulence of the animal inflicting the bites, the bites of rabid wolves and (probably) of rabid cats being more dangerous than those of rabid dogs. Certain members of the Commission who went to Paris carefully investigated a series of ninety cases taken consecutively from those appearing earliest in M. Pasteur's register. They visited these patients in their homes and collected evidence on the spot: the result was that of the ninety cases twenty-four were bitten on naked parts by undoubtedly rabid dogs, and the wounds were not cauterized nor treated in any way likely to have prevented the action of the virus; in thirty-five cases the dogs were rabid, but the bites were inflicted through clothes; and in thirty-one there was no clear evidence that the dog was rabid. None of the ninety persons died of the disease, whereas the Commission estimate that eight would have died if untreated by M. Pasteur. He, however, has inoculated many persons with regard to whom there was no evidence that they had been bitten by rabid animals, but who feared that they had: consequently in calculating the general result of his method it is necessary to take a very low percentage of mortality. The lowest rate ever assigned is, according to the report, five per cent. of the persons bitten. Between October, 1885, and December, 1886, M. Pasteur inoculated two thousand six hundred and eighty-two persons: of this number thirty-three (or, according to the anti-Pasteurians, forty) died of hydrophobia: five per cent. would have given one hundred and thirty. In two hundred and thirty-three cases it was proved, either by inoculation from their spinal cords or by the occurrence of rabies in other animals bitten, that the biter was rabid; only four of these persons died; the Commission estimate that without M. Pasteur's treatment forty would have died. The conclusion on this head is given in the following terms:

"From the evidence of all these facts, we think it certain that the inoculations practised by M. Pasteur on persons bitten by rabid animals have prevented the occurrence of hydrophobia in a large proportion of those who, if they had not been so inoculated, would have died of that disease. And we believe that the value of his discovery will be found much greater than can be estimated by its present utility, for it shows that it may become possible to avert by inoculation, even after infection, other diseases besides hydrophobia. Some have, indeed, thought it possible to avert smallpox by vaccinating those very recently exposed to its infection; but the evidence of this is, at the best, inconclusive; and M. Pasteur's may justly be deemed the first proved method of overtaking and suppressing by inoculation a process of specific infection. His researches have also added very largely to the knowledge of the pathology of hydrophobia, and have supplied what is of the highest practical value,—namely, a sure means of determining whether an animal which has died under suspicion of rabies were really affected with that disease or not."

The report next passes to the question

whether the treatment is itself free from danger. It will be remembered that M. Pasteur has made use of three different methods: the ordinary method employed at first, and still used in all cases but those considered especially dangerous; the "intensive method" (*méthode intensive*), first introduced when the patients bitten by wolves died in such large proportion; and the modified intensive method, used in dangerous cases since the fear has arisen that the intensive method may itself be dangerous. The three methods are shown in the following tables taken from the report:

TABLE I.—*Early or Ordinary Method.*

Days of Inoculation.	1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
Days during which the spinal cord had been dried...	14	13	12	11	10	9	8	7	6	5

TABLE II.—*Intensive Method.*

Days of Inoculation.	1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th	9th.	10th.	11th.
Days' drying of the cords.....	14, 13, 12	11, 10, 9	8, 7	6, 5	4, 3	2	1	6, 5	4, 3	2	1

TABLE III.—*Modified Intensive Method.*

Days of Inoculation.	1st.	2d.	3d.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th.	13th.	14th.	15th.
Days' drying of the cords...	14, 13	12, 11	11, 10	10, 10	9, 9	9	8	8	8	7	7	7	6	6	5

The Committee state that "by the first or ordinary method there is no evidence or probability that any one has been in danger of dying, or has in any degree suffered in health even for any short time. But after the intensive method, deaths have occurred under conditions which have suggested that they were due to the inoculations rather than to the infection from the rabid animal."

The symptoms bore a striking resemblance to those of paralytic rabies (the form usually seen in rabbits and occasionally in dogs), and in one case, that of Goffi, an attendant at the Bronn Institution, bitten by a rabid cat, it was shown by inoculations made with his spinal cord that his death was due to rabies: whether the rabies of the cat or the rabies of the intensive inoculations cannot be proved, though Mr. Horsley thinks, from a comparison of the dates, that it could not be the latter. Goffi was bitten on September 4, M. Pasteur's treatment was commenced on September 5; he was taken ill on October 18, and died on October 20. The symptoms were those of acute ascending paralysis (Landry's paralysis), and it is suggested that some at least of the cases described under this name may have been cases of the paralytic form of hydrophobia, which is stated (though no authority is given) to have been observed in men bitten by rabid animals and not inoculated. Whether the intensive method was responsible for some of the deaths is left undecided, as it was thought unnecessary to pursue further a very complicated question which has ceased to have any practical interest owing to M. Pasteur having now adopted a modified course. The general conclusion of the Committee is that hydrophobia and rabies might be stamped out by the rigid enforcement of adequate police regulations with regard to dogs. The average annual number of deaths from hydrophobia in England for the decade ending 1885 is forty-three: if this be taken to represent five per cent. of the persons bitten, it would seem that M. Pasteur's treatment would be required by eight hundred and sixty persons every year in England alone.

An interesting discussion of ophthalmoplegia was raised by a paper read by Mr. Jonathan Hutchinson, Jr., at the Ophthalmological Society. The most important point brought out was that there were two, if not three, different classes of cases of ophthalmoplegia externa, and that the prognosis probably differed in each. The diagnosis therefore becomes of practical importance. There is a type of the disease in which it is symmetrical from the first, gradually progressing to complete paralysis of all the muscles; this is very intractable, and is probably due to cerebral lesion. In another type the disease was not symmetrical, came on quickly, and generally got well. The paper read by Mr. Hutchinson, Jr., was an example of the second class; the right eye only was affected; the patient died of cellulitis occurring around a syphilitic ulcer of the leg. The ophthalmoplegia was found to be due to neuritis sec-

ondary to chronic inflammation about the right cavernous sinus, which had also produced obliteration of the sinus, partial obstruction of the carotid artery, and adhesion of the apex of the temporo-sphenoidal lobe to the dura mater. In two other very similar cases of ophthalmoplegia interna and externa recovery took place under iodide of potassium, and there was very strong reason for believing that in all the cases the inflammation was of syphilitic origin. It was pointed out that the occurrence of protrusion of the affected eye and congestion of the lids present in these cases was due to the involvement of the cavernous sinus, and might be of great use in making a diagnosis. Dr. Necles, during the discussion, mentioned a case which must be very rare: double ophthalmoplegia externa and interna (coming on gradually, first affecting one eye and then the other) due to tubercular meningitis.

At a previous meeting an excellent discussion took place on toxic amblyopia. The general opinion was in accord with that expressed by Mr. Nettleship in opening the discussion: namely, that tobacco is a more powerful agent than alcohol, and is capable of producing amblyopia which is characterized by a central scotoma without the aid of alcohol in any form. Since the amblyopia comes on in many cases at a time when no alteration in the quantity or quality of the tobacco used is made, there must be some other determining element, and this is to be looked for either in a mental shock or perhaps in failing vitality due to increasing age. Tobacco-amblyopia is seldom seen before forty years of age, and is certainly more common in persons who smoke strong tobacco and drink much alcohol. If the sufferer will give up tobacco the vision rapidly improves and the prognosis is on the whole good, though relapses may occur if the habit of smoking is resumed. Some ophthalmologists prescribe strychnine, and others iodide of potassium; but it is at least doubtful whether either drug has anything to do with the recovery.

Mr. Cross, of Bristol, related to this Society two cases in which he had eviscerated the eye and introduced an artificial vitreous into the sclerotic in the manner recommended by Dr. Mules, of Manchester. In both cases the operation was done for penetrating wound, in both the wound was found after some days to have gaped, and in both the remaining eye became affected with sympathetic ophthalmitis seventeen and twenty-one days respectively after evisceration. The cases were considered to be analogous to cases of sympathetic ophthalmitis occurring after and in spite of enucleation, but not caused by the operation. The danger of such a fistulous track as was caused by the gaping of the sclerotic junction over the globe was, however, pointed out. Mr. Cross thought that such a septic fistula might result either from imperfect healing or from wearing away of the conjunctiva between the artificial vitreous and the artificial eye. Dr. Miles said that these two cases were the first recorded instances after his operation. The general opinion was that Mr. Cross had rightly described both his cases as examples of sympathetic ophthalmitis; and in this connection the existence of a fistula leading from the conjunctival sac to the sclerotic cavity is worthy of note, though Mr. Cross was inclined to attach far more importance to a probable tendency to sympathetic ophthalmitis existent before the operation.

The accounts of the improvement which has taken place in the Crown-Prince of Germany are most glowing. Dr. Morell Mackenzie has got away the whole of the growth, leaving, however, a broad base, and the prince's voice has greatly improved.

Mr. W. S. Savory, F.R.S., Senior Surgeon to St. Bartholomew's Hospital, has been re-elected President of the Royal College of Surgeons of England, and now enters upon his third term of the office. This is a departure from the usual custom, which has been to choose a new President every year. It is probably, in part at least, dictated by a desire to leave the negotiations in progress for obtaining a new charter and the right to grant degrees in medicine in the same hands. The proposed charter creating a "Senate of Physicians and Surgeons" has been published. The Senate would consist of the President and twenty-three members of the Council of the College of Surgeons, and the President and twenty-three Fellows (elected by the Comitia) of the College of Physicians. The general principle of the scheme appears to be universally approved. The omission of the teachers as such can be defended on the ground that the Senate, constituted as above stated, would probably consist entirely of men who were engaged in teaching or were in the position of Emeritus Professors. Whether the graduates of a university ought or ought not to have some recognized share in the constitution of the governing body has always been a matter of dispute from the earliest days of universities. It is the custom in England to admit this right; but this custom has been the source of many conflicts at Oxford and Cambridge, even in recent years. Its omission, however, from the present scheme is not a popular move, using that phrase in the political sense.

Mention was made in an earlier letter of the new regulations for the Croonian lectures at the Royal College of Physicians. The augmented income of the Trust Fund permits the College to give the Lecturer one hundred pounds as his honorarium, and a similar sum will be placed at his disposal to defray the cost of experiments and generally for making preparations for his lectures. Dr. Donald Macalister, who is a Fellow of St. John's Col-

lege, Cambridge, and is Secretary to the Medical Board in Cambridge, will be the first lecturer under the new regulations. His lectures, given early this year at the College of Physicians, on "Fever," were highly appreciated, and there is every reason to hope that he will be able to establish a good precedent. Dr. W. H. Dickinson will be the Lumleian Lecturer. He has chosen for his subject "The Tongue considered with Reference to Constitutional and Organic Diseases,"—*i.e.*, considered symptomatically.

The two Colleges of Physicians and Surgeons in London are the owners of some spare ground adjoining the new Examination Hall on the Thames Embankment. It has been determined by formal resolution to make use of this site for the erection of a building for "the investigation and exposition of such branches of science connected with medicine and surgery as the two colleges may from time to time determine." This is understood to mean a lecture-theatre and laboratories.

We are at present suffering from drought. There has been no general rain for three months, and the few showers which have fallen here and there have not made any appreciable difference; streams and ponds which are usually full throughout the year are dried up, and the stock of water for drinking in many localities is seriously diminished. In Swansea indeed there is a "water-famine," and Manchester is threatened with a like misfortune. So prolonged a drought is very uncommon in this rainy isle, and town and country districts are alike as unprepared for it as is London for a heavy snow-storm in winter.

DAWSON WILLIAMS.

PROCEEDINGS OF SOCIETIES.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

(Continued from page 741.)

THE next paper read was by Dr. B. F. Westbrook, of Brooklyn, on

THE LOCAL TREATMENT OF DISEASES OF THE RESPIRATORY ORGANS.

The methods of treatment which had been employed were the direct introduction of coarse sprays, the use of the Evans inhaler, and the use of the pneumatic cabinet. In cases of chronic bronchitis where the cough was severe, a spray of a solution of carbolic acid, fluid extract of hyoscyamus, or other sedative remedies, was employed. Where there is copious secretion, astringents are called for, and of these tannic acid, iron salts, and fluid extract of pinus canadensis had been employed. The pneumatic cabinet had been used with marked success in the treatment of chronic bronchitis. The patient is confined in the cabinet under a diminished pressure, the sitting lasting from ten to fifteen minutes. This may be combined with the inhalation of the spray. If there is much emphysema the cabinet is not indicated. In using the cabinet in the treatment of chronic interstitial pneumonia and bronchiectasis there is danger, if the pressure is great, of producing emphysema of those portions of the lung still accessible to the air. The pressure should not exceed one-half an inch of mercury.

In the treatment of phthisis the best results are obtained in the early stages of the disease, or where the disease, although further advanced, is limited to a small portion of the lung. The use of sprays is beneficial only in so far as we desire to treat the coexistent bronchitis or cavities connected with bronchi of the second or third order. In incipient phthisis with very little bronchial catarrh, local treatment is probably of little service. These cases are best treated with compressed air. In a large proportion of the cases we may hope to render the disease latent. The expansion of the lung favors the expectoration of the contents of the smaller tubes and modifies the intra-thoracic circulation. The sittings should be frequent: every day, or every second day. Ten minutes is usually sufficiently long for the patient to remain in the cabinet. The pressure should gradually be increased up to one-half or three-fourths of an inch. If used cautiously, this is the best method for the local treatment of incipient phthisis. With the Evans inhaler his results had also been satisfactory.

In the treatment of advanced cases of phthisis the first effort must be to cure or diminish the bronchitis. The pneumatic treatment then comes into play. This gives better expansion, improves the circulation, and alters the action of the trophic nerves. In all cases internal medication has been combined with the local treatment. The more acute the disease the higher the fever, and the more sudden the onset the less can we expect to accomplish by treatment. In no single case diagnosticated as acute phthisis did treatment have the slightest effect.

Dr. A. Y. P. Garnett, of Washington, D.C., read the first paper of the second morning session, entitled "Observations upon the Sanitary Advantages of Tidewater Virginia, including Virginia Beach, as a Winter Health-Resort."

The next paper was by A. L. Loomis, M.D., of New York City, on

EVERGREEN FOREST AS A THERAPEUTIC AGENT IN PULMONARY PHTHISIS.

It has long been known that similar climates, as determined by geographical and meteorological conditions, have different therapeutic effects. That there is some rela-

tion between the development of organisms and atmospheric conditions is becoming more and more apparent. We know that cold and high altitudes render the air aseptic, but the degree of cold and the height required are so great that clinically it is not possible to derive much advantage from this fact. The effect of a purely aseptic air upon ulcerative processes is not so great as the effect of an atmosphere which is aseptic on account of the presence of antiseptic agents. The belief in the good effect of pine forests in cases of phthisis is quite unanimous, and the author thought that the clinical evidence in favor of their beneficial influence in these cases was also unquestioned. The atmosphere in such regions is not only aseptic, but also antiseptic. Such an atmosphere contains considerable turpentine vapor, and we should therefore expect it to contain a certain amount of peroxide of hydrogen. In the speaker's opinion, the majority of cases of phthisis die not directly from the lesions in the lung, but from the secondary septicæmia and pyæmia which is set up. It is impossible to apply to the ulcerations within the lung the antiseptic washing and dressing that is employed in external lesions; but if an antiseptic atmosphere can be obtained we may hope to counteract the secondary poisoning. Such an atmosphere will not destroy the bacilli, but it will accomplish much in the way of arresting the suppurative process. It was the opinion of the speaker that the atmosphere in the region of evergreen forests acts in a manner similar to the antiseptic agents which are successfully used to arrest suppurative processes in other portions of the body. He thought that in all probability the active agent was the peroxide of hydrogen resulting from the oxidation of the turpentine-vapor. While it is not possible for every one suffering with pulmonary phthisis to obtain an antiseptic atmosphere, yet it is possible to render the air of any particular locality antiseptic. The evergreen forests should be preserved, and evergreen trees should be planted in the neighborhood of our homes.

A paper entitled "The Climate of the Sub-Peninsula, Pinellas, Florida," was read by Dr. W. C. Van Bibber, of Baltimore.

ENVIRONMENT IN ITS RELATION TO THE PROGRESS OF BACTERIAL INVASION OF TUBERCULOSIS

was the subject of a communication read by Dr. E. L. Trudeau, of Saranac Lake.

Environment evidently has an important bearing in reference to bacterial invasion. The author proposed to himself the following questions: 1. What results ensue when bacillar invasion and unhygienic conditions are made to coexist? 2. Are unhygienic surroundings sufficient to cause phthisis when precautions are taken to exclude the bacillus? 3. Is bacterial infection always productive of tuberculosis when the animal is placed under the most favorable hygienic conditions? In order to answer these questions the following experiments were performed. Fifteen healthy rabbits were taken and divided into three sets of five each. The first experiment consisted in taking five of the rabbits, inoculating each with a pure culture of the tubercle-bacillus, and subjecting them to overcrowding in a dark cellar, with poor and insufficient food and other unhygienic conditions. In the second experiment five rabbits were placed in a box and lowered into a pit dug in the ground, the mouth of the pit covered with earth with the exception of a trap-door for the introduction of food, which consisted of one small potato for each animal per day. So damp was the air that the box in which the animals were confined was constantly wet. The third set of animals were inoculated with the tubercle-bacillus and turned loose on a small island, where they had abundant sunlight, fresh air, and exercise. They were daily supplied with wholesome food.

The results of these experiments were that four of the first five rabbits died in three months, and extensive tuberculosis was found. The fifth animal was killed at the end of five months, and the same condition found. The second set of five rabbits were all living at the end of four months. They seemed to be as active as at the time the experiment began. They were then killed, and careful examination revealed nothing abnormal. One of the third series of rabbits died at the end of one month, and on examination there was enlargement of the cervical and bronchial glands, and tubercles in the spleen. The remaining rabbits continued in apparently good health, and were killed at the end of four months. They were loaded with adipose tissue, the flesh was firm and red, all the organs were normal, and even the seat of the punctures could not be made out. These experiments confirm the view that the production of tuberculosis is a most complex process. Although the environment may bear but the relation of a predisposing cause to the microbe invasion, it is nevertheless a most potent factor in determining the future and the final results of the disease, and, while we may not underestimate the pathogenic properties of the bacillus, the effect of environment upon the vitality is a factor which must not be ignored.

At the afternoon session the first paper was read by Dr. Walter Platt, of Baltimore, "On the Climate of St. Moritz, Upper Engadine, Switzerland."

Dr. A. C. Peale, of the United States Geological Survey, Washington, presented "A Classification of American Mineral Waters."

"St. Augustine as a Winter Health-Resort" was the title of a paper by Dr. F. F. Smith, of St. Augustine.

He described the geographical and climatic conditions existing in St. Augustine. An abundance of pure water is obtained from sixty artesian wells; this water is charged with sulphuretted hydrogen. Drinking-water is obtained by means of cisterns. A complete system of sewers is now being introduced; these will be flushed by the waste water from the artesian wells. The average temperature during the winter months of the past ten years has been as follows: November, 63°; December, 57°; January, 55°; February, 58°; March, 61°; April, 67°. The average number of rainy days during the winter months for the past ten years has been thirty-three, but on nineteen of these occasions the rainfall was at night, so that there were really only fourteen rainy days.

The following papers were read by title:

"An Invalid's Day in Colorado Springs," by Dr. S. E. Solly, Colorado Springs.

"The Climate of Southern California," by Dr. H. S. Orme, Los Angeles, California.

"Pass Christian, Mississippi, as a Health-Resort," by Dr. Charles Le Roux, Pass Christian.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted. Dr. A. L. Loomis, of New York (with Dr. F. Donaldson, Sr., of Baltimore, as alternate), was appointed as the representative of the Association to the Committee on the Congress.

The following were elected to membership:

Drs. A. L. Gihon, U.S.N.; W. P. McDougal, San José; A. C. Peale, U.S. Geological Survey; E. Wilds Linn, Los Angeles; F. F. Smith, St. Augustine; F. P. Henry, J. J. Levick, and Thomas J. Mays, Philadelphia; Thomas C. Leatmer, J. Carey Thomas, and Walter Platt, of Baltimore; S. E. Solly, Colorado; S. W. Langmaid, Boston; S. E. Morgan, Washington; S. H. Chapman, New Haven; and S. A. Fisk, Denver.

Officers for the ensuing year—

President.—Dr. A. L. Loomis, New York.

Vice-Presidents.—Drs. A. Y. P. Garnett, Washington, and James T. Whittaker, Cincinnati.

Secretary and Treasurer.—Dr. James B. Walker, Philadelphia.

Council.—Drs. E. T. Bruen, Philadelphia; J. H. Tyndale, New York; F. H. Bosworth, New York; F. H. Shattuck, Boston; and R. G. Curtin, Philadelphia.

The Association then adjourned.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued from page 744.)

DISCUSSION ON ANTIPYRETICS.

DR. I. E. ATKINSON, of Baltimore: So far as the temperature-reducing power of these agents is concerned there can be no question, but, as has been said, we are coming more and more to realize that elevation of temperature is far from being all there is in pyrexia. As regards the relative merits of thalline, antipyrine, and antifebrine, I think that the tendency to chilling after the use of thalline is decidedly greater than after the use of antipyrine, while the latter is more apt to produce nausea and vomiting. I am disposed to disagree with the statement that the use of these drugs can take the place of the external application of cold water. My experience with the latter measure has been limited. It has recently been reported that one observer abroad has treated two hundred cases in private practice by the use of baths with a mortality of nothing; in army hospitals he has had a mortality of five per cent., and in ordinary hospital practice a mortality of less than eight per cent. Although with antipyretics we can reduce the temperature at pleasure, yet the duration of the case is not lessened, and in some cases it has been thought to have been prolonged.

Dr. H. C. Wood, of Philadelphia: We must not look upon the use of cold water as acting merely by the abstraction of heat. I am convinced that the action is more than this. It probably exerts some reflex influence through the superficial nerves.

Dr. George L. Peabody, of New York: A certain proportion of cases which do not bear the cold bath will bear the use of antipyretic drugs, while, on the other hand, the bath may be used in a certain number of cases in which antipyretics cannot be applied. From clinical experience he was convinced of the truth of the statement of Dr. Wood, that the cold bath accomplishes more than the simple reduction of temperature. Its soothing effect upon the nervous system is greater than that accomplished by the reduction of temperature by antipyretic drugs. In many instances the course of the disease is favorably modified by the use of the cold bath.

Another important matter is that since the introduction of these methods of treating fever by antipyretics the number of relapses seem to be greater and more fatal.

He understood the lecturer to say that antipyrine acted solely by diminishing heat-production, and that it did not increase heat-dissipation. He must differ from him on that point. It seems that the increase of heat-irradiation from the surface is very great, not only where it produces sweating, but also where it does not.

Dr. W. W. Welch, of Baltimore, said that he should like much to hear a discussion of the question, How far is the rise in temperature an important element in fever, and an element which calls for interference on the part of the physician? There is comparatively little evidence that the grave symptoms of fever are due simply to the elevation of temperature. There is no doubt that temper-

atures of 110° to 113° produce serious symptoms, but whether or not ordinary temperatures of 105° to 107° exert any serious action on the body is a question which is certainly unsettled. It has been shown that rabbits can be kept in a box with a continuous rectal temperature of 107° for at least two weeks, provided the precaution is taken to keep the box well ventilated and the animals supplied with moist food. Patients may have a perfectly clear brain, and no grave symptoms, with a temperature of 106° or 107°. On the other hand, there are severe and fatal cases of typhoid fever in which the temperature has never registered a great height. While in most cases there is a certain proportion between the height of the temperature and the severity of the disease, yet there are certain cases where this proportion does not exist.

Dr. William Pepper, of Philadelphia: From his experience he had been disposed to think that antipyrine and antifebrine in their antipyretic effect were superior to thalline; as between the two former he had not noticed any marked difference. He had used both largely in a variety of cases, and had not seen any of the dangerous symptoms which have been mentioned by some writers. The action of these drugs seems to be purely through the nervous system, with no effect upon the circulation, the respiration, or upon the secretions save that of the skin. Some of his observations bore upon the question of the relative value of the external use of cold water and the internal use of antipyretics. In the sudden acute pneumonias of children with a temperature of 106° or 107°, with initial convulsions, where the prompt and repeated use of cold baths has been without result, full doses of either of these antipyretics have produced a remarkably successful effect. In a recent case in a child with double croupous pneumonia, involving two-thirds of the left lung and one-third of the right lung, with a temperature in the rectum of 107° and with repeated convulsions, cold baths failed to relieve the symptoms, although repeated at intervals of three hours. Antipyrine in repeated doses controlled the pyrexia at the beginning and on several occasions during the course of the disease, and after a severe struggle the child recovered. As to the ability of these agents to replace cold baths under all circumstances, the evidence is not adequate. In the sudden hyperpyrexia occurring in the course of rheumatism, he was not prepared to accept the view that these drugs are capable of replacing the cold bath. In these cases we have direct evidence that the high temperature is the direct cause of the symptoms, at least of the severe nervous symptoms. He was not one of those who consider high temperature in itself a dangerous symptom. There is no proof that high temperature—provided that it has not induced secondary changes—should be regarded other than as one symptom of the disease. Many of his patients with typhoid fever, with a temperature of from 103° to 105°, have done perfectly well without any measures directed to the reduction of the fever. We, however, meet with cases in which these temperatures are attended with certain symptoms for which there is apparently no other cause. In such cases we must consider that the hyperpyrexia calls for treatment. He had noticed the effect to which attention has been called,—that is, the deep and tranquil sleep which follows the administration of these antipyretics.

Dr. George B. Shattuck, of Boston, had used both antipyrine and antifebrine largely, and it seemed to him that antifebrine offers all the advantages of antipyrine without its disadvantages. It has none of the disadvantages which belong to thalline. Three or four grains of antifebrine accomplish the same results as are produced by a larger dose of the other drugs. The disagreeable symptoms which some writers have referred to as following antipyrine are probably due to the fact that they follow the original recommendation and give two grammes of the drug. The same benefit may often be obtained from one gramme, and often from half this quantity. With reference to the point whether pyrexia is or is not a dangerous feature of the disease, we find clinically that where a patient has high fever and he is irritable, impatient, and uncomfortable, the administration of one of these antipyretics, or the external use of cold water, produces a tranquil and refreshing sleep, and he awakes in a condition much better fitted to continue the struggle with the disease.

Dr. J. C. Wilson, of Philadelphia, agreed with other speakers that antifebrine has many advantages over thalline, particularly in its cheapness and in the smallness of the dose. A recent observation which he had made is interesting as bearing on the question of heat-dissipation. In a case of typhoid fever under his care, antifebrine in five-grain doses was given, repeated whenever the temperature reached 104°. This caused copious sweating, with the usual reduction of temperature, amounting to three and a half or four degrees. On the last occasion one-ninety-sixth of a grain of sulphate of atropia was given with the antifebrine. No sweating occurred, and the temperature was reduced only one and one-half degrees.

Dr. James T. Whittaker, of Cincinnati, differed from those who accept the view that fever is a neurosis. There is no proof that the nerve-centres are distinctly irritated, that the agents which reduce fever act directly on the nervous centres. Is it not more probable that the antipyretic action is really an antimycotic action? We have some observations which go to show that the disease is caused by bacteria, or, if not directly by bacteria, by some of their products, the ptomaines.

Would it not be more rational to study the habits of these bacteria and address ourselves rather to the removal of the cause than to the counteracting of the effects?

Dr. H. M. Lyman, of Chicago: With regard to antifebrine and antipyrine my experience has been that of previous speakers, and my preference for the former drug is growing. Their great value proceeds not so much from their power to reduce temperature as from their general effect, especially upon the nervous system. I regard them as valuable adjuvants in the treatment of disease, largely from their hypnotic and tranquillizing effect upon the nervous system, to which allusion has already been made. In many instances, where in abrupt febrile affections relief has not been secured from antifebrine and antipyrine, this failure is frequently due to the presence of the rheumatic complication, and there salicylic acid will give the relief that we fail to get with the antipyretics.

Dr. John Guitéras: In some experience with these drugs in the treatment of the continued fevers of warm climates, the results had been rather negative, and had shown the advantage of stopping their use after they have been continued for a certain length of time. He had been called in consultation to cases where the drug had been continued for ten or fifteen days, each time that it was given producing a certain reduction of the temperature, but having no permanent benefit, and the patients have begun to improve as soon as the drug was stopped. It has seemed that when given continuously in this way they have an effect on the vaso-motor system. The pulse is weak and dicrotic, and he had considered it advisable to give digitalis. The effect of cold-water baths in these continued fevers of the South has seemed to him more beneficial. If continued for two or three days they often favorably modify the course of the disease.

Dr. George L. Peabody, of New York: With reference to the point suggested by Dr. Whittaker, there is no question in my mind that a considerable proportion of cases of typhoid fever can be aborted by antiseptic treatment of the intestinal ulcers with naphthaline or resorcine. For the past two years I have treated all cases coming under observation during the first ten days of the disease with a calomel purge (ten grains), followed by naphthaline in such doses that at least seventy or eighty grains were taken during the twenty-four hours. Under this treatment he had without doubt succeeded in aborting many cases in which the symptoms were quite pronounced. He had not succeeded in thus cutting short cases coming under observation at the end of the second week.

Dr. H. C. Wood, of Philadelphia, in regard to the dissipation of heat by sweating in his experiments, stated that in the dog there are but few sweat-glands, so that there could be no heat-dissipation from this cause. Sweating in man does undoubtedly cause a dissipation of heat. With reference to the possible influence of antipyrine on fever through some action on the bacteria causing the fever, he said that in the experiments to which he had referred no microbes were concerned in the production of the fever, which was induced by the pyrogenic principle of pepsin.

Dr. James Tyson, of Philadelphia: In a recent case of rheumatism the temperature suddenly went up to 105°, with alarming brain-symptoms. Antifebrine in five-grain doses failed to produce any effect. The patient was then put into a cold bath, and the temperature of the water gradually reduced to 72°. The discomfort experienced by the patient then prompted his removal from the bath. The thermometer in the rectum showed a reduction of only one-half of a degree, but within the course of half an hour the temperature fell three degrees. This was not considered as due to a natural defervescence, but must be attributed to the effect of the bath. The fall in temperature was followed by a disappearance of all the symptoms and the recovery of the patient. While he had never seen any serious results from the use of thalline and antipyrine, yet there have been symptoms which caused much alarm to the attendants. He had not seen such symptoms following the use of antifebrine.

Dr. R. Palmer Howard, of Montreal, wished to emphasize the fact that internal antipyretics and the cold bath are not equivalents; they are substitutes, and important auxiliaries to the physician. These measures relieve special symptoms, but whether or not they shorten the duration of the disease is a question not yet settled.

Another important point is with reference to relapse in typhoid fever. This is a subject which requires investigation. Every relapse, so called, is probably due to the absorption of fresh poison, and is really a fresh attack. It is really an initial attack. It runs a severe course, and often proves fatal.

(To be continued.)

NEW YORK PATHOLOGICAL SOCIETY.

STATED meeting, June 22, 1887, the Vice-President, W. P. NORTHRUP, M.D., in the chair.

GENERAL PERITONITIS.

Dr. MIDDLETON GOLDSMITH sent the specimens, which were presented by Dr. John C. Peters. Dr. King, of his place, was taken ill June 4, and sent for Dr. Caverly, who found him suffering with great pain in the right iliac region, without swelling or tympanites. The abdomen felt natural. Just before Dr.

Caverly's arrival the patient had taken an enema, without pain, but the first effort to pass anything from the bowels was attended by severe pain, and the second attempt by excruciating pain. Dr. Caverly found him with cold extremities, and the face had the ashen hue of death. Two-thirds of a grain of morphine were administered hypodermically, and hot-water bags were applied to the extremities. Dr. Goldsmith was then sent for, who, when he arrived, found the patient without pain; but he said he had been ailing with indefinite pain in the bowels and a good deal of pain in the right iliac region for three weeks; now there was nothing besides except general soreness over the abdomen. The first thought was that there had been some injury, perhaps rupture of the gut in the right groin. The patient died on the fourth day, and at the autopsy almost universal adhesions were found in the right side of the abdominal cavity; there was only about half a teacupful of serum in the cavity; the intestines had adhered to the liver and to other organs with which they came in contact. The gut was filled with water, and was felt to give way slightly under the grasp of the hand, as though there was a small vent; but the entire length of the intestine was examined, and no evidence of injury or an opening was found. All the other organs in the abdominal cavity were apparently in a healthy condition. There was no evidence of injury produced by the nozzle of the syringe with which the patient had injected the enema. Death had taken place from general peritonitis.

TRAUMATIC PERITONITIS—PNEUMONIA.

Dr. H. J. Boldt presented the lungs and heart removed from the body of a boy, aged 8 years, who on the 12th of June had received a violent blow upon the abdomen with the fist of another boy. He went home and to bed, and shortly afterwards began to suffer intense pain. He had considerable fever during the night, and complained more or less of pain. On the next day Dr. Boldt saw him, when he had a high temperature, extreme tenderness over the abdomen, especially marked in the ileo-cæcal region. Dr. Boldt diagnosticated traumatic peritonitis. In the course of two days, however, evidence of pneumonia developed, which progressed and involved the entire right lung, and subsequently the left lung to a slight extent. The consulting physician suggested aspiration of the right pleural cavity because he thought it contained fluid, but only twenty grammes of fluid were obtained. During the progress of the pneumonia the peritonitis was lost sight of. The patient died on the morning of the 22d of June, and the autopsy was made shortly before the specimens were presented. There was diffuse peritonitis, consolidation of the entire right lung, and some consolidation of the left lung. There was also extensive pericarditis.

PRIMARY EPITHELIOMA OF THE CONJUNCTIVA.

Dr. W. P. Northrup presented a specimen of primary epithelioma of the conjunctiva, occurring in a private patient 3 years and 2 months of age. The boy was first presented to him suffering apparently with a phlyctenula situated on the nasal margin of the cornea of the left eye. The case not progressing favorably, he asked Dr. Agnew to see it in consultation, who corroborated the diagnosis, and also expressed the opinion that it would probably prove to be one of those cases of phlyctenula in which there was delay in the process of repair, and which might leave a trifling amount of thickening of the cornea and conjunctiva. At the end of the second week, there having been no progress towards recovery, Dr. Northrup diagnosticated epithelioma, and again asked Dr. Agnew to see the patient in consultation. At that time there was a nodule about the size of a pin-head, rounded, mobile, the surface furrowed, showing some loss of substance, and towards which three or four blood-vessels were running. The diagnosis was confirmed, and Dr. Agnew recommended that the growth be removed immediately, which was done. The patient promptly recovered from the operation. Microscopical examination of the growth, made by Dr. Northrup, and also by Dr. Delafield, showed it to be an epithelioma.

Dr. Northrup remarked that epithelioma of the conjunctiva was nearly always secondary to disease of the lids. The primary affection of the conjunctiva was exceedingly rare. The prognosis usually was unfavorable, but in this case there had been no evidence of return of the disease seven months after the operation, and Dr. Northrup believed the patient was permanently cured.

BRITISH MEDICAL ASSOCIATION.

Fifty-Fifth Annual Meeting, at Dublin, August 2–5, 1887.

THE first general meeting convened at 11.30 A.M., with an unusually good attendance for the opening meeting. Dr. W. Withers Moore, of Brighton, the retiring President, made his leave-taking in a brief speech.

Dr. John T. Banks, Regius Professor of Physic in the University of Dublin, the President-elect, was conducted to the chair, and responded in an appropriate manner.

A resolution of thanks was proposed and passed to the retiring President.

Sir B. Walter Foster, President of the Council, then made the report for that body. The financial condition of the Association was reported to be in a highly satisfactory condition. The total revenue during the last

year was £25,385 2*s.* 10*d.*, whilst the expenditure was £24,395 15*s.* 6*d.*, leaving a surplus balance of £989 7*s.* 4*d.* The invested capital of the Association amounts at present to £17,566. The membership of the Association has reached about 12,000, and there are now 400 applications for membership.

Edward Hamilton, M.D., F.R.C.S.I., Professor of Surgery in the Royal College of Surgeons of Ireland, Surgeon to Steevens Hospital, Dublin, delivered the

ADDRESS IN SURGERY.

The speaker first paid a glowing tribute to Robert William Smith, an illustrious Irishman, who had filled this post twenty years before. He then reviewed the achievements of the Dublin branch of the British Medical Association, and spoke in very complimentary terms of the journal of the Association.

In an address of this kind the mind instinctively turns to retrospect of the improvements of surgery. A prominent position must be accorded in this Victorian era to the *antiseptic system of surgery*, still enveloped in the clouds of uncertainty and misconception, notwithstanding the work which so many eager and enthusiastic admirers have bestowed upon it. The system may be wrong in practice and founded on an erroneous theory, but it has spread throughout the civilized world, and that wonderful results have followed it cannot be denied. Yet we find some of its most devoted adherents abandoning parts of the system long considered as essential,—and that, too, without diminution of results. Again, we find antiseptic precautions so little regarded—nay, almost set at naught—as to prompt the ovariotomist to flush the peritoneum with water containing "germs and spores and thirty different kinds of beasts," and yet point to a continuous record of success little, if any, inferior to the more complex method. What can the simple inquirer after truth arrive at?

It may be conceded as proved that the atmosphere which surrounds our globe is infested with myriads of minute organisms subject to constant and restless change. These changes are largely influenced, if not caused, by their surroundings, and they again produce disturbance in their surroundings. Some of these can only develop in material which is dead, and are therefore amenable to physico-chemical laws. Others, again, are capable of living in tissue which is alive, where they increase and multiply, disarranging and vitiating the whole organism. In the first variety the effect produced is in direct proportion to the actual amount of the ferment introduced. In the second the amount of disturbance produced is out of all proportion to the minute quantity of the noxa which causes it. That the latter bodies are potent factors in suppuration and infective inflammation would appear to be proved beyond a doubt. Experiments have proved that injury may be produced, either mechanical or physical, on the deep tissues of the living body, and, if due cleanliness of the instruments be observed and atmospheric air absolutely excluded, no effect whatever is produced beyond the injured spot. The hot iron or injections of strong solutions of chloride of zinc kill the tissues, but the necrosed mass produces no ill effect on the surrounding structures.

It is certainly our duty to destroy and exclude from the body all these micro-organisms, and if the means adopted for that purpose—call them Listerism, antisepticism, surgical cleanliness, or by whatever name you will—turn the scale a feather-weight in favor of restoration to health or saving the life of a single human being, the man who refuses to employ them through apathy or prejudice incurs a responsibility nothing short of criminal.

A suitable germicide is now the object of pathologists and chemists. It is interesting to watch now one, now another, lauded and proclaimed, only to be superseded by a new claimant. Carbolic acid, corrosive sublimate, iodoform, thymol, have each for a time worn the crown, only in their turn to be deposed and dismissed as impostors.

Up to the present the attention has been almost exclusively fixed upon infective germs, sufficient regard not having been paid to the important influence of environment. We know that these atoms, no matter how virulent they may be, cannot undergo their life-changes, cannot produce their infective results, unless the environment, like the cultivation-liquids of the histo-pathologist, is capable of developing and sustaining this change. Deposited on a clean glass, metal, or porcelain, they die of inanition; they exercise no influence whatever, and are amenable to none. In contact with dead organic matter, or living matter in certain conditions of altered or reduced vitality, they become a teeming source of infection, decomposition, and decay. If we bring pathological surfaces to such a condition that they do not afford a suitable cultivation-ground, do we not accomplish as much as when we destroy them? Surely the perfection of antisepticism must be attained when these two conditions are fully developed and enforced.

The protection of vaccination against smallpox and the protection of the blood by the previous action of the exanthemata are examples of the influence of environment. The bacilli of splenic fever, so destructive to the herbivorous animals, take little effect on carnivora, and none at all on the pachydermata. The bacteria which will cause septicæmia in the mouse are wholly inert in the field-mouse. If we study human by comparative pathology, we learn much. Look at the flood of

light which has been shed by the study of splenic fever, chicken cholera, and of glanders; or by Pasteur's discovery of the *Pébrine* in the silkworm. We can learn much from the pathology of the vegetable kingdom. Some of the most troublesome diseases which the surgeon has to deal with are caused by the invasion of vegetable parasites. Fruit can be ripened with almost mathematical precision by interposing between specimens fully-ripened fruit of the same species, just as if the emanations from the ripe fruit produced a ripening influence upon the fruit in its immediate vicinity. I think we see this principle of environment frequently illustrated in human pathology when disease extends to adjacent but not continuous surfaces.

This twofold aspect of chronic inflammation was forced on my attention by trying to think out the best mode of dealing with chronic abscess. The discharge from a recently-opened abscess does not show any of these micro-organisms which are so characteristic of purulent matter in acute suppuration.

The treatment of open wounds by a solution of the chloride of zinc, the method introduced by the late Campbell de Morgan, has been the treatment of my colleagues and myself at Steevens Hospital for over twenty years. This has no rational foundation in histo-pathology, yet our faith in the practice cannot be shaken by the dictum of even so high an authority as Koch, who asserts that chloride of zinc is inert as a germicide, and much less effective than corrosive sublimate, iodine, or carbolic acid. I firmly believe that it will render a cut surface a barren cultivation-field, and I think we can infer that it will produce a similar effect on the wall of an abscess.

My method of proceeding is the following. A long curved trocar and canula is pushed through the abscess, and made to transfix it some four or five inches; a piece of rubber tubing, with a single hole about the centre, is then drawn through the canula by a thread connected with the cutting-end of the trocar; the aperture in the tubing being lodged midway between the trocar-wounds, the canula is removed. One end of the tube is attached by glass tubing to the exit-conduit of an irrigating can hung well above the patient's bed, the other end discharges into a reservoir at the bedside; by means of a stop-cock the flow of liquid may be regulated with greatest nicety, so that it can escape drop by drop, and render not only the contained fluid but the abscess-wall perfectly aseptic. Again, by compressing the exit-portion of the tube between the thumb and finger you can cause distention of the sac to any degree desirable, and thus produce all the advantages of the distention method proposed by Mr. Callender. And now as to the fluid which is to be used for irrigating an abscess. In my earlier trials I of course employed the fashionable antiseptic, carbolic acid, but my patients, after a few hours, exhibited olive-colored urine and gastric disturbance, warning me that I could not persist without reducing the strength of the solution to such a degree as to render it inert. Subsequently I employed a very weak solution of chloride of zinc (one part to two hundred) with the best possible results. The cavity remained antiseptic; remarkable changes were developed in the wall of the abscess; thin, membranous matter was discharged from time to time. After about a week the sinuses through which the tubes were passed became enlarged, so as to be no longer watertight. This at first caused considerable trouble in keeping the patient dry and comfortable, but more extended experience proved that at this time continuous irrigation is not needed, the cyst-wall having undergone such decided alteration in its structure that occasional syringing is quite sufficient for the perfect healing of the cavity. Such, Mr. President and gentlemen, is the treatment of chronic abscess by irrigation.

In conclusion, fellow-laborers of the British Medical Association who are engaged in surgical work, we have committed to us a goodly heritage. This Victorian age in which we live has been signalized by some most remarkable advances in all the arts and sciences. Human intellect and inventive faculties, day after day, gain fresh triumphs over matter, but in none have greater strides been made than in the art and practice of surgery, more especially in those lines where it is being extended by a more careful application of anatomy and physiology. It is true that in this country experimental research, which has done so much to relieve human suffering and save human life, is cribbed, cabined, and confined within the four corners of an Act of Parliament which is a reproach to the common sense of that august assembly, and an outrage on the characters of the members of a profession who, whatever may be their faults and failings, have never been obnoxious to the charge of cruelty or disregard of suffering or pain. The hysterical shrieks of a few women and the puling sentimentality of some weak-minded men have placed and retained in the statute-book the Vivisection Act. *Tu quoque* is, I believe, a bad defence, but we see them mount their horses and hunt to death the timid hare and clever fox. I should be sorry, indeed, to say a word against field-sports, which have no doubt their useful purpose. I only ask for consistency, and that scientists in this country should not be placed at so great disadvantage compared with their Continental brethren.

We must, however, make the best use of the means at our disposal, and carry forward the standard of investigation into new and unexplored fields. One by one the dark caverns of the body are being illumined by the light of scientific surgery; even the ivory

walls which guard and protect the dome of thought are pierced by its rays, and the brain itself mapped out with geographical precision, as in a chart, so that we can, by careful reading of the symptoms, place our fingers on the very spot oppressed by injury or disease, and by a bold and decisive operation lay it bare and remove the cause of its morbid condition or disturbed function. There still is ample room and verge enough for work,—many untrodden fields of discovery; so that the future of Queen Victoria's reign may be made as glorious in the annals of scientific discovery, and as full of help to the sick and wounded sufferer, as it has been in the past.

(To be continued.)

REVIEWS AND BOOK NOTICES.

A System of Gynecology by American Authors. Edited by Matthew D. Mann, A.M., M.D. Vol. I. Illustrated with Three Colored Plates and Two Hundred and One Engravings on Wood. Philadelphia, Lea Brothers & Co., 1887. Sheep, 8vo, pp. 789.

The contents of the first volume of this "System of Gynecology" are as follows: "A Historical Sketch of American Gynecology," by Edward W. Jenks, M.D.; "The Development of the Female Genitals," by Henry J. Garrigues, M.D.; "The Anatomy of the Female Pelvic Organs," by Henry C. Coe, M.D.; "Malformations of the Female Genitals," by Henry J. Garrigues, M.D.; "Gynecological Diagnosis," by Egbert H. Grandon, M.D.; "General Consideration of Gynecological Surgery," by E. C. Dudley, M.D.; "General Therapeutics," by Alexander J. C. Skene, M.D.; "Electricity in Gynecology," by Alphonso D. Rockwell, M.D.; "Menstruation and its Disorders," by W. Gill Wylie, M.D.; "Sterility," by A. Reeves Jackson, M.D.; "Diseases of the Vulva," by Matthew D. Mann, M.D.; "The Inflammatory Affections of the Uterus," by C. D. Palmer, M.D.; "Sub-Involution of the Vagina and Uterus," by Thaddeus A. Reamy, M.D.; "Peri-Uterine Inflammation," by Richard B. Maury, M.D.; and "Pelvic Hæmatocele and Hæmatomata," by Ely Van de Warker, M.D.

The several topics considered in this volume are treated not only in a manner consistent with the reputation of the several authors, but also—what is more rare in a work of this character—in a style remarkable for condensation and lucidity of statement. This System is worthy of unqualified praise, and if the succeeding volumes fulfil the promise of the first, it will be an honor to American gynecology, and indispensable to every physician who wishes to keep himself *au courant* with this rapidly-developing department of medicine.

NEW REMEDIES AND CLINICAL NOTES.

Hyoscine, according to Chéron, appears likely to supplant the older mydriatics, the effect being produced in ten minutes by the use of a few drops of a solution made in the proportion of one to a thousand.

Pill for Diabetes of Arthritic Origin.

℞ Lithii carb., 10 centigrammes;
Sodii arseniatis, 3 milligrammes;
Ext. gentianæ, 5 centigrammes. M.
Ft. pilulæ.
Take morning and night.—*Vigier.*

Cannabis Indica for Dysentery and Summer Diarrhœa.—The value of cannabis indica in dysentery is recognized in India, and Dr. S. J. Rennie, of Cawnpore, calls attention to it in an interesting communication to the *Indian Medical Gazette* last December. In sporadic cholera, a combination was suggested by Dr. Turner (*Lancet*, vol. ii., 1886), which he had also found useful in ordinary summer diarrhœa:

℞ Tr. cannabis indicæ,
Spiritus chloroformis, āā ♏ x;
Tincturæ kino, f℥j;
Aquam menthæ piperitæ, ad ℥j.

This has been given in all forms of diarrhœa occurring during August and September in a large dispensary, and its superiority over all the other remedies commonly used was very evident. Frederick F. Bond, M.D., and B. E. Edwards, M.B., in the *Practitioner*, extol this remedy, and prefer to combine with it a small quantity of morphine. The formula usually adopted for an adult is:

℞ Tincturæ cannabis indicæ, ♏ x:
Liq. morphinæ (Br.), ♏ v–x;
Spiritus ammonii aromatici,
Spiritus chloroformis, āā ♏ xx;
Aquam, ad f℥j. M.

To be repeated every one, two, or three hours, according to circumstances. During this period or for several hours no food is to be taken by the patient, but a little brandy-and-water. Under this treatment no cases reached a fatal issue. It is of only temporary value in tuberculous diarrhœa or in the excessive diarrhœa of typhoid fever.

MISCELLANY.

Common Forms of Adulteration in Coloring-Materials used by Confectioners and Bakers.—As a result of recent discovery of the use of chromate of lead as an artificial "egg-coloring" for cakes, public attention has been called to the subject of coloring-materials used in the trade. The American Society for the Prevention of Adulteration in

Food had just issued a circular to bakers and confectioners with reference to articles averred to be in common use:

"You are hereby notified that the enumerated colors herein are poisonous, and if you persist in the use of any of them after receipt of this notice you will be prosecuted to the full extent of the present law:

"*Common and Poisonous Colors.*

Common Name.	*Chemical Name.*
YELLOW.	
King's yellow	Sulphide of arsenic.
Cadmium yellow	Sulphide of cadmium.
Turner's yellow	Oxychloride of lead.
Turpeth mineral	Basic sulphate of mercury.
Chrome yellow	Chromate of lead.
Chrome zinc	Chromate of zinc.
Citron yellow	Chromate of barium. Chromate of strontia.
Naples yellow	Oxides of lead and of antimony.
Yellow ochre	Clay and hydrated ferric oxide.
Mosaic gold	Sulphide of tin.
RED.	
Minium	Oxide of lead.
Vermilion	Sulphide of mercury.
Purple red	Basic chromate of mercury.
Iodine scarlet	Mercuric iodide.
Realgar	Sulphide of arsenic.
Red ochre, Colcothar	Ferric oxide.
GREEN.	
Chrome green	Chromic oxide.
Cobalt green (Rimmam)	Oxides of cobalt and of zinc.
Mountain green	Malachite green.
Scheele's green	Acetate of arsenite of copper.
BLUE.	
Ultramarine	Silicate of alumina and soda with sulphide of sodium.
Mountain blue	Malachite blue.
Smalts	Silicate of cobalt and potassium.
Antwerp blue, Insoluble Prussian blue	Ferric ferrocyanide.
Soluble Prussian blue	Ferro-potassic ferrocyanide.
Indigo	
BROWN.	
Manganese brown	Binoxide of manganese.
Vandyke brown	Ferric oxide
Burned sienna, Burned umber	Clay colored with oxide of iron and manganese.
ORANGE.	
Chrome orange	Basic chromate of lead."

INTERNATIONAL MEDICAL CONGRESS.—Preparations are on foot to entertain delegates to the International Medical Congress who may wish to visit Philadelphia before going to Washington. On the Saturday preceding the opening of the Congress an informal reception and clinic will be held at the Pennsylvania Hospital, under the charge of Dr. T. G. Morton. A Committee of Arrangements has been appointed, with Professor William H. Pancoast as Chairman, some members of which will be in attendance at the St. George Hotel, in this city, morning and evening, in order to give information relative to the meeting of the Congress to those who desire it. The hotels offer reduced rates to delegates.

ACTION OF THE SUN'S RAYS ON GLUCOSE.—At a meeting of the French Academy of Sciences, M. Pasteur referred to some recent researches by M. Duclaux on the decomposition of sugar by the rays of the sun. This investigator had observed that when an alkaline solution of glucose, either in contact with the air or completely protected from the atmosphere, was exposed to the action of the solar rays, decomposition took place without the intervention of any ferment. Carbonic acid and alcohol were produced in just the same proportion as when sugar is fermented by yeast. This observation, although of no great practical importance, is of considerable scientific interest.—*Zymotechnic Magazine.*

COLOR-BLINDNESS AMONG ENGINEERS.—A peculiar phase of the labor problem was recently manifested in this city in a strike of the Reading Railroad train-men against an examination for color-blindness. It was found that some of the engineers in charge of night trains were seriously defective in their power to recognize or distinguish colors. The railroad authorities refused to yield, and the question was finally refused to be settled by arbitration.

COMPLIMENTARY BANQUET.—The personal friends of Dr. J. M. Barton tendered him the compliment of a dinner of fifty covers at the St. George Hotel on the 9th instant, to celebrate his safe return from abroad.

THE *Nashville Medical News* has been discontinued.

NOTES AND QUERIES.

OBITUARY.

DEATH OF MR. WILLIAM G. MALIN.—From the debilitating effects of the heat, acting upon a physical frame already weakened by the infirmities of advancing age, died, on the 2d instant, MR. William Gunn Malin, who, in the capacity of Clerk, Librarian, and Steward, faithfully served the Pennsylvania Hospital for the period of fifty-nine years. In 1824 he was appointed clerk to the hospital. In 1883 he was retired from active duties, and by resolution of the Board of Managers he was invited to make his home in the institution during the remainder of his life. Shortly afterwards a complimentary dinner in recognition of his long and faithful service was given to him by the ex-resident physicians, at which the managers, medical staff, and many invited guests were present. On this occasion his life-size portrait in oil was presented to the hospital. He had decided literary tastes, and made a fine collection of books relating to the history of the Moravian Church, which he presented to the Moravian Society at Bethlehem, Pennsylvania. Of late his health had been evidently failing. He was greatly respected by all who came in contact with him, and had many friends, chiefly among the older resident physicians and managers.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING AUGUST 6, 1887.

IRWIN, FAIRFAX, PASSED ASSISTANT-SURGEON.—To inspect unserviceable property at New York Marine Hospital, August 5, 1887.

CARTER, H. R., PASSED ASSISTANT-SURGEON.—Granted leave of absence for six days, August 1, 1887.

BEVAN, A. D., PASSED ASSISTANT-SURGEON.—Granted leave of absence for ten days, August 5, 1887.

NORMAN, SEATON, ASSISTANT-SURGEON.—Granted leave of absence for four days, on account of sickness, August 5, 1887.

PHILADELPHIA, SEPTEMBER 3, 1887.

ORIGINAL LECTURES.

CLINICAL LECTURE ON PYÆMIA.

Delivered at the College of Physicians and Surgeons, Chicago, Illinois.

BY N. SENN, M.D., PH.D.,
Milwaukee, Wis.,
Professor of the Principles and Practice of Surgery, and Clinical Surgery, in the College.
Reported by DR. WILLIAM WHITFORD.

GENTLEMEN,—We shall consider this morning what remains of the long list of wound infective diseases,—pyæmia. With Gussenbauer, I will define pyæmia as a general infective disease, the result of the introduction into the blood of the products of septic pus; differing from other infectious diseases by the presence of multiple foci of inflammation and suppuration, and attended by an intermittent form of fever. The term pyæmia was introduced by Piorry, and literally signifies simply the coexistence of blood and pus,—*a pyo-hæmia*. Even before the relations of suppuration to pyæmia were known, it was supposed that it was the direct result of introduction into the circulation of certain noxious fluid substances (the humoral doctrine of pyæmia). Piorry recognized the direct relation between suppuration and pyæmia, and believed that the disease was due to the direct introduction of pus into the circulation. You must remember that at that time the histology of pus was very little understood; it was supposed to be simply a fluid which might permeate the vascular wall, and which, by deposition in certain regions of the body, was supposed to produce secondary or metastatic abscesses. This was the early pathological view of pyæmia,—the direct entrance of pus from the local point of suppuration into the circulation, and its arrest and localization within certain vessels in distant parts of the body.

Then came the view of Hunter, who believed that pyæmia was always the result of phlebitis; that the inflammation of the vein-wall, by producing pus, was the cause of secondary or metastatic abscesses (the phlebitic theory of pyæmia). He believed that from the tissue of the vein-walls (the seat of the suppurative inflammation) the inflammatory products gained direct access into the interior of the inflamed vessel, and that by a process of filtration, or in consequence of an arrest of the circulating pus in the blood, the numerous metastatic abscesses were produced.

Cruveilhier made the assertion that in all instances of phlebitis thrombosis was the primary cause of the inflammation; that the peculiar characteristic features of pyæmia consisted in a primary thrombosis; in short, there was, first, the formation of a thrombus in a vessel, and, secondly, a subsequent or secondary inflammation in the immediate vicinity of the thrombus. This idea was carried so far by his disciples that all inflammatory processes were by them attributed to thrombotic changes in the smallest veins: not only inflammatory lesions, but even new growths, tumors, tuberculosis, etc., were supposed to originate in small veins by the initiation of a local inflammation resulting in various pathological products. A new aspect was given to the pathology of the disease by the careful experimental investigations of Virchow on thrombosis and embolism. He showed that the metastatic deposits always occurred at points where vessels had been blocked by an embolus derived from a disintegrating thrombus. While the direct relationship existing between suppuration and pyæmia was well understood clinically, it was left for Klebs to demonstrate for the first time the direct connection of the pyæmic processes with the presence of specific microbes. In his researches into the nature of the disease during the Franco-Prussian war in 1870, he detected in the pyæmic products certain well-defined morphological elements which he called the *micrococci of pyæmia*. He found that these micro-organisms always arranged themselves in the form of "colonies" or "groups," which he termed "zoöglœa." He found this specific germ invariably present, notably at the primary seat of infection, but also in the most distant organs,—wherever, indeed, pathological changes during the course of the disease occurred.

Pasteur, in studying the puerperal form of pyæmia, detected the same morphological elements, but he found that they arranged themselves in the form of chains, consequently he called them the *microbe en chapelet*, or "chain coccus."

Vogt, when studying this subject under

the direction of Hueter, found certain germs which he called "monads" always present in all pyæmic deposits.

Burdon-Sanderson supposed that he had detected the essential cause of pyæmia in a "dumb-bell-shaped germ." From our present stand-point we can readily assume that the shape of the germ described by Sanderson was determined by the approximation of two micrococci, which when brought into close contact would resemble a dumb-bell.

The first reliable investigation into the nature of the disease was made by Koch, who not only studied the form and natural history of these germs, but produced pyæmia artificially. He found that by obtaining a putrid fluid by maceration of the skin of a mouse in distilled water, and injecting a considerable quantity of this fluid into the subcutaneous tissue of a rabbit, it induced a rapidly fatal form of pyæmia. He found that after the animal had died,—five hours to five days after inoculation,—at the point of injection there was an extensive subcutaneous abscess; and on pursuing his investigations further, he found in the various distant organs characteristic pyæmic metastatic deposits, capillary metastases, and multiple foci of inflammation and suppuration, terminating in secondary inflammations in adjacent organs, as, for instance, suppurative pleuritis the result of metastatic abscesses underneath the pleura, and suppurative peritonitis from similar processes beneath the peritoneum. By taking the serum from the œdematous portion of the pathological product and injecting it again into another animal it produced the same conditions, but in a much shorter time. He ascertained also that by diminishing the dose the interval between inoculation and the fatal termination was invariably increased, showing conclusively that in regard to time the pathological effect of the specific cause of pyæmia holds a direct relationship to the number of germs introduced. He described these germs as the micrococci of pyæmia, which in appearance resemble closely the zoöglœa described by Klebs.

Rosenbach went one step further, and examined the pyæmic deposits in man, and by cultivating directly upon an artificial soil properly sterilized he obtained the specific germs of the disease. In five out of six cases he found the *streptococcus pyogenes;* he found the *chain coccus* and the *staphylococcus* in combination in two of the five cases; and in one case only of pyæmia he found the staphylococcus alone, and this was the only case that recovered. These observations show conclusively that in the majority of cases the germs which produce the disease are the ordinary germs of suppuration first described by Ogston. Subsequent experience has shown that when the disease is produced by the staphylococcus alone it usually assumes a milder type. The results of these experimental and clinical investigations demonstrate conclusively the essential etiological connection that exists between suppurative lesions and pyæmia,—viz., that in every case suppuration must precede as a necessary antecedent pathological condition, in contradistinction to septicæmia, as I have informed you on a previous occasion, where the existence of suppuration is irrelevant: septicæmia simply being a disease due to putrefaction and absorption of wound-products, whilst pyæmia is invariably the result of an infection from a dépôt of suppuration.

We shall take it for granted that in every case of pyæmia we are dealing with the presence of the essential germs (the streptococcus and the staphylococcus), which produce at first a local suppuration, and secondly, when the disease becomes general, implicate the veins. This leads us to a consideration of phlebitis and the etiological relationship which exists between phlebitis and thrombosis on the one hand, and between phlebitis and suppuration on the other. The etiologico-clinical feature of a pus-microbe in a pyæmic patient consists in its capacity to permeate the vascular wall. The route which the specific germ of the disease selects in effecting entrance into the circulation is always through a vein or capillary vessel. As in the production of a suppurative inflammation in the soft tissues anywhere, the specific primary effect of the germ is upon the tissues with which it first comes in contact; so in cases of pyæmia the contact of the germ with the vessel-wall produces a destructive parenchymatous phlebitis. Whilst we recognize the truth of Virchow's assertion that a simple or plastic phlebitis can run its course without producing thrombosis, it is different in cases of pyæmia, as the phlebitis associated with this disease is always of an infective type and assumes a necrotic character: in other words, the contact of the specific germs

with the living vessel-wall produces a coagulation-necrosis or interstitial death of the tissues, and is consequently always followed, as a necessary consecutive result, by thrombosis *in loco* at the primary point of inoculation. We have here a pathological condition as we observe it in man, as compared with the direct and rapid results produced by Koch upon animals by the direct introduction of the pyogenic agents into the subcutaneous tissue. Clinically, we observe that the inoculation of the tissues in a wound with pus-microbes in the immediate proximity of a vein is followed by a primary pyogenic phlebitis, and, as a result of microbic action, death of the endothelial lining ensues, and the consecutive coagulation-necrosis leads to conglutination and coagulation and the formation of a thrombus. This thrombus subsequently is infiltrated with the specific germs, which again facilitate or hasten necrotic changes in the thrombus, which results in puriform softening and disintegration. Phlebitis in connection with pyæmia signifies always the production of a thrombus at the point of inflammation, and its subsequent dissemination by embolism. The *infection-atrium*, or route by which the pus-microbes gain entrance into the system, is usually through a wound,—a loss of surface-continuity somewhere which may not be detected or recognized in every instance, as in some cases of septicæmia, for the primary wound may have healed before pyæmia has occurred. But, as it is quite rational to assume that the germs of septicæmia enter the circulation only through an abraded surface, so in pyæmia the actual development of the disease is always preceded by some form of traumatism or some other appreciable antecedent pathological condition. A form of pyæmia has been recently described where no initiatory lesion can be found, and which has been referred to so-called auto-infection, which we can only explain by the entrance of the specific germs into the circulation through intact mucous surfaces and their localization in some internal organ, where they remain in a latent condition for an indefinite period of time, but sooner or later, under the influence of some determining cause or causes, produce local pathological conditions at the seat of deposition which lead to suppuration, thrombo-phlebitis, and pyæmia.

In considering the symptoms we must first allude to the local conditions in or about the wound. In patients threatened with pyæmia we usually observe a well-defined train of premonitory symptoms which precede the actual development of the disease, referable to the appearance of the wound and the general condition of the patient. The existence of the disease may be suspected at any time after suppuration has occurred, when evidences of serious capillary stasis manifest themselves at the seat of injury or operation. As the result of this intense capillary congestion at the primary seat of infection we observe a localized œdema; the margins of the wound appear puffed and elevated; the granulations pale and flabby; suppuration, which may have been profuse, becomes scanty; the pus changes its character, and, instead of a yellowish cream-colored fluid, it becomes sanious, serous, or sero-sanguinolent. On close inspection, in many instances, you are enabled at this time to detect direct evidences of thrombosis in some of the larger veins, manifested by all the symptoms resulting from venous obstruction. The general premonitory symptoms indicate a slight degree of intoxication, the result of the introduction of ptomaines from the primary suppurative dépôt into the circulation,—a general feeling of malaise; loss of appetite; sometimes a slight increase of temperature, and a slight acceleration of the pulse. The increase of temperature is followed sooner or later by the actual development of the disease, which is always initiated by a sudden, well-defined chill, which lasts from a few minutes to an hour or more. A chill of this kind must always be considered a grave symptom, as it indicates that a large amount of ptomaines has been suddenly introduced into the circulation. The chill usually recurs at irregular intervals,—one, two, or three a day, as a rule,—increasing in frequency, and often in intensity, as the disease progresses. If, for instance, during the first few days your patient has one daily chill, and, after a few days, two or three chills a day, every additional chill indicates a more advanced degree of intoxication and a wider diffusion of the ptomaines throughout the organism. New foci of infection near and remote from the primary seat of infection serve as independent centres for the production of ptomaines; consequently the

greater the area of infection the more grave the condition of the patient, and the greater the intensity of the general symptoms. The pyæmic chill inaugurates an intermittent type of fever, which in many instances resembles malarial fever almost to perfection; in fact, many cases of pyæmia have been mistaken in the beginning for cases of malarial fever, and *vice versa;* but, instead of the regular periodical chills such as characterize malaria, no regular periodicity is observed in pyæmia. You rarely, if ever, have two daily chills in malaria; but two or three or four chills in twenty-four hours are not infrequent in cases of pyæmia. As in malarial fever, so in pyæmia, the thermometer shows a rise of temperature during the algid stage, which rapidly increases, and reaches its maximum before the sweating stage. The temperature may become subnormal during the remissions or intermissions, showing that the chilly sensations are entirely subjective, as at this time the thermometer invariably indicates a constant rise in temperature. The circulatory organs, as in cases of sepsis, are deleteriously affected by the ptomaines, which act as direct cardiac sedatives. You observe the same feeble, rapid pulse, but the depression is not as marked as in most cases of acute septicæmia, as pyæmia is characterized by a slower process, a more gradual development of symptoms, and an inherent tendency to localization. The respiratory organs furnish additional and important symptoms, which, when present, are often sufficient upon which to base a differential diagnosis between this disease and septicæmia, as we shall see farther on. The secondary changes characteristic of pyæmia almost invariably occur first in the lungs; consequently we may expect that the local foci of inflammation in this organ will be attended by a change of function, as manifested by rapid respiration, etc. The clinical evidences which indicate well-defined points of localization of these secondary processes, such as consolidation of certain areas of lung-tissue each surrounded by a zone of local hyperæmia and œdema, and caused by the metastatic deposits, will be discovered at the bedside by physical exploration of the chest, which yields localized râles, increased bronchial sounds over the solidified lung, and all the evidences of diffuse multiple foci of inflammation. As in cases of septicæmia, so in pyæmia, the gastro-intestinal canal is always involved in the morbid process, as the mucous membrane invariably shows evidences of capillary stasis, œdema, or even catarrhal inflammation, which accounts for the total loss of appetite, vomiting, and diarrhœa, which are frequent and conspicuous symptoms. The nervous symptoms in pyæmia differ from those of septicæmia, inasmuch as they are not so marked; and when they are prominent they simply indicate, as in septicæmia, a rapid production and diffusion of ptomaines, which produce a sedative effect directly upon the brain and nervous system in general.

In considering the differential diagnosis you must also remember the subject of fermentation fever, which, when it occurs after an injury or operation, always appears within twenty-four hours, and is caused by absorption of fibrin ferments, and not by infection; while pyæmia never occurs before sufficient time has elapsed for suppuration to become established, which always requires at least three or four days, while it may occur at any subsequent time, so long as suppuration continues. Remember that suppuration bears a direct etiological bearing to pyæmia, and always precedes and attends this disease. Septicæmia you will recognize by the most prominent symptoms, such as a slight chill, usually not repeated, the initiatory sensation of chilliness being followed by a continuous form of fever, in contradistinction to the repeated chills and the intermittent form of fever attending pyæmia. It is sometimes more difficult to differentiate between polyarthritis of a non-pyæmic character and true pyæmia. For instance, you may mistake, possibly, an acute articular rheumatism for pyæmia, and *vice versa*, inasmuch as the disease under consideration frequently affects multiple joints, producing multiple suppurative arthritis; but you must recollect that rheumatic fever follows a well-defined course, with a definite history and a continuous form of fever, while, on account of the progressive infection, pyæmia is attended by an intermittent form of fever. Then, again, carefully consider the clinical history of the case, with special reference to the existence of a dépôt of suppuration caused by the presence of antecedent pathological suppurative products within the body caused by auto-infection.

If any doubt remains as to the nature of the local inflammation in the joint or joints, an exploratory puncture will reveal the character of the pathological product, and thus render valuable diagnostic assistance.

In cases of gonorrhœal arthritis the question of differential diagnosis becomes still more difficult, inasmuch as this form of arthritis has been considered by a number of eminent pathologists as a mild form of pyæmia, an opinion which now appears substantiated upon a pathological basis, as suppuration of the urethral mucous membrane always precedes the development of the disease; consequently the difficulty of diagnosis is diminished if you are able to trace the disease to its specific source.

The morbid anatomy of pyæmia furnishes an interesting and important subject for discussion. First, let us consider the primary focus of suppuration, caused by the direct introduction of the microbes of pus, which produce the local suppuration. The question naturally presents itself, Why do not all suppurative processes lead to pyæmia? Theoretically, an explanation can be advanced by assuming that in some forms of suppuration the pus-microbes possess a less degree of potency to infect the tissues, or else that the organism or tissues of the patient present a greater degree of resistance. Those conditions which would tend to limitation of the disease, and thus calculated to protect the patient against pyæmia, must be carefully considered in studying the causative relations between suppuration and pyæmia. The anatomical structure at the seat of the primary suppuration also exerts a potent influence in determining the occurrence of the disease; for it is a well-known clinical fact that suppurative osteo-myelitis is frequently followed by pyæmia, while suppuration in other localities, even when very extensive, is seldom followed by the extension of the suppurative process to veins. The actual development of the disease begins with a thrombo-phlebitis at the primary suppurative dépôt, from which the subsequent embolic infarcts in distant organs are derived by disintegration of the thrombus and transportation of fragments to the nearest filtrum, the lungs. The primary phlebitis is due to the pus-microbes having come in contact with and having infiltrated the vein-wall, and produced tissue-changes which favor coagulation-necrosis, consequently the formation of a thrombus *in loco*. The phlebitis at the seat of embolism is caused by the transportation of a fragment of the primary thrombus or the implantation of the specific germs upon the intima of distant vessels, producing an arteritis from within outward, in contradistinction to phlebitis from without inward, as was the case at the primary dépôt of the pyæmic process. It has been shown experimentally that certain chemical irritants, when applied to the exterior of a vein, produce a direct necrotic effect upon the intima without necessarily producing a parenchymatous inflammation of the intervening tunic. For instance, the application of nitrate of silver to the jugular vein of dogs produces a necrosis of the intima, while the remaining portion of the vein-wall remains intact. We must assume that the nitrate of silver reaches the intima by diffusion where death of the endothelial cells is produced by the chemical action upon their protoplasm. It is reasonable to assign to the action of the ptomaines a similar destructive effect upon the tissues with which they come in contact, either directly by the medium of the germs, or by diffusion. It has also been demonstrated that *digitoxin*, a vegetable substance, when brought in contact with endothelial cells by intravenous injection, produces necrosis of the intima. From these experiments it appears more than probable that the ptomaines elaborated by the pus-microbes, and brought in contact with the intima, produce similar necrotic effects, which determine the formation of a thrombus *in loco* by conglutination and coagulation in all cases where a secondary thrombus forms independently of an embolic infarct. The primary thrombo-phlebitis is doubtless produced by the deleterious effects of the pus-microbes, the ptomaines acting upon the vessel-wall in a centripetal direction, while the thrombus at the seat of metastasis is produced by an embolic infarct or the implantation of the essential germs upon the intima, where they or their product, the ptomaines, destroy the vitality of the intima. This condition is necessarily followed by coagulation-necrosis and the formation of a septic thrombus and extension of the inflammatory process in a centrifugal direction.

We have now reached the important subject of thrombosis from pathological causes. I have described to you in a pre-

vious lecture the process of coagulation as we observe it in vessels obstructed by the application of a ligature completely and suddenly interrupting the circulation, and detailed to you the minute processes which cause the formation of a non-infective or plastic thrombus. In such instances the intravascular coagulum results from the circumscribed tissue-changes in the vessel-wall following the trauma and the sudden and complete arrest of the circulation, conditions which induce coagulation-necrosis, the liberation of fibrin-ferment, and which, acting upon the remaining fibrin-producing substances (fibrinogen and fibrino-plastic material), causes the formation of a thrombus. Such a thrombus, due to aseptic causes, soon becomes infiltrated with the products of tissue-proliferation from the vessel-wall, and having performed its temporary function as a nidus for the plastic material, is completely removed by substitution on the part of the intra-vascular granulation-tissue, which by cicatricial contraction effects the definitive closure of the lumen of the vessel. Pathologists have been for years endeavoring to find a tangible explanation of the formation of the white mural thrombus during life which has been so often found upon post-mortem examination, and for the occurrence of which no satisfactory explanation could be given. The older pathologists interpreted the existence of a white mural thrombus by considering it as a remnant of an antecedent red or coagulation thrombus, decolorization having taken place by escape or destruction of the red corpuscles. Recent investigations, more especially the researches of Eberth and Schimmelpfennig, have shown that the white thrombus within a vessel during life has a different significance, as far as its production and duration are concerned. Such a thrombus is not caused by coagulation-necrosis alone; it consists almost exclusively of the third corpuscles of the blood, which become deposited by conglutination upon a projecting devitalized surface of the intima.

The interesting and valuable experiments of Eberth, for instance, have demonstrated that whenever a foreign substance encroaches upon the axial current of the circulation it mechanically arrests the third corpuscles which come in contact with it, a process which is termed conglutination, and which results in the formation of a white thrombus. If a thread be passed through an artery or vein of a living animal, it becomes the nucleus for a white thrombus which is composed almost exclusively of the third corpuscles. It has been claimed that these minute disks were the result of disintegration of pre-existing red or white corpuscles, the product of a retrograde change. But careful physiological investigation has verified the existence of a third element in the blood, whose function so far has not been definitely determined, but which, as we have seen, constitutes the most important element in the formation of a mural thrombus and the gradual obliteration of the vessel.

Another important element in the production of a thrombus in an inflamed vessel is the white corpuscle, which under such circumstances, in virtue of an increased viscosity, manifests a strong tendency to mural implantation, which, when the vessel is already the seat of mural thrombosis, accelerates the growth of the thrombus, and consequently the obliteration of the vessel. In capillary vessels, the seat of localization of the pus-microbes, rapid and complete stasis takes place by mural implantation of the viscous white corpuscles, which arrest the axial current, producing capillary thrombosis.

I hope I have made this subject sufficiently intelligible for you to appreciate the process of thrombosis as we observe it in cases of pyæmia. In recapitulation, it can be said (1) that the thrombo-phlebitis at the point of primary infection is caused by the action of the pus-microbes on the vessel-wall, causing tissue-changes which determine thrombosis. (2) The thrombus thus produced is an infective one, incapable of removal by granulation-tissue, destined to undergo disintegration, and by detachment of fragments it gives rise to embolism. (3) When pus-microbes have gained entrance into the venous circulation, they may produce thrombo-arteritis in distant parts by implantation upon the intima, where they give rise to necrobiotic changes which determine thrombosis and extension of suppurative inflammation to the remaining tunics and the paravascular tissues, which leads to the formation of metastatic abscesses.

On examining a recent thrombus in a case of pyæmia, you will always observe the zoöglœa in its peripheral portion show-

ing distinctly the etiological relations which they bear to it. When a sufficient period of time has elapsed for the germs to infiltrate the thrombus, they impart to all the elements of that thrombus the infective properties which characterize the primary dépôt of infection. The infection becomes general by dissemination of the pus-microbes set free by the thrombus and diffusion of the ptomaines through the circulation, these giving rise to the toxæmia which constitutes one of the most conspicuous clinical features of pyæmia. The infective germs which enter the veins at the primary infection-atrium reach the lungs as the first filtrum through the intervening venous channels directly, or through the medium of the white corpuscles or detached fragments of a disintegrated thrombus, where they initiate a septic thrombo-arteritis which constitutes the nucleus or starting-point for the formation of metastatic abscesses in this organ. In case the infective germs or fragments of a thrombus pass the first filtrum, they enter the left side of the heart, and by dissemination through the systemic circulation lead to metastatic abscesses in the most distant organs in the same manner as in the lungs. One of the characteristic features of pyæmia aside from the demonstrable embolism and metastatic abscesses is the existence of extensive capillary stasis, caused by direct implantation upon the lining of the capillary wall of floating germs, which so alter the tissues as to determine mural aggregation of the white corpuscles and complete closure of the lumen of the vessels by conglutination of the third corpuscle, conditions which finally result in the formation of a capillary thrombus.

The question, important to pathologists, as to the true relationship of phlebitis to thrombosis, has recently been satisfactorily explained. If thrombosis follow a non-infective plastic phlebitis, we shall find the thrombus surrounded by the inflamed vascular tunics, with a beginning infiltration of its periphery by the products of cell-proliferation from the fixed tissue-cells, as well as by migration corpuscles. The appearance of the vascular walls, as well as the condition of the thrombus, indicates that the inflammatory processes preceded the formation of the thrombus, and consequently must be considered as the direct cause of the intravascular coagulation-necrosis. If the reverse be the case,—if the thrombus be the cause of the phlebitis, as in cases of thrombosis after embolism, or after complete obstruction in a vessel from other causes,—on examination it will be found that the thrombus has undergone changes which antedated the inflammatory changes in the tunics of the vessels, and therefore must be looked upon as the direct cause of the phlebitis.

Having described thrombosis as it occurs in pyæmia at the primary point of infection and in distant organs, I will now call your attention to embolism. You must bear in mind that a primary thrombus is always caused by local causes in the vessel; its growth is gradual; consequently it does not give rise to sudden obliteration of a vessel, and in the majority of cases when due to pathological causes it is found in veins. Embolism, on the other hand, implies the sudden obliteration of a vessel, always an artery, by the impaction of the lumen of the vessel by a foreign substance or pathological product, which is carried in the direction of the blood-current until its further progress is mechanically arrested, and in consequence the circulation is suddenly and completely interrupted beyond the seat of the obstruction, unless subsequently restored by collateral circulation. Both of these forms of vessel-obliteration are met with in pyæmia. A plastic thrombus, as we have already seen, is capable of undergoing complete absorption by a process of substitution on part of the granulation-tissue springing from the fixed tissue-cells of the vessel-tunics; but an infected thrombus, the seat of infection of pus-microbes, is not capable of undergoing such favorable retrograde changes. This variety of thrombus disintegrates at an early stage by gradual granular degeneration of its component parts under the influence and by the cause of these specific microbes. There is no absorption, but a softening takes place primarily in the centre; the necrotic changes which take place convert the thrombus into a material which microscopically resembles pus. It was this septic disintegration of a thrombus which formerly induced pathologists to assume the direct entrance into and the presence of pus within the vessels. Virchow showed many years ago that the product of a broken-down thrombus is not pus, but that it is a granular *débris*, the

result of retrograde degeneration of the histological elements of the thrombus itself. When the thrombus is produced by a peripheral microbic cause, disintegration often begins between the vessel-wall and the thrombus, and the necrobiosis attending this process gives rise to early transportation of minute particles of the thrombus to distant parts of the organism, causing capillary embolism in the lungs and other organs. When a large fragment of a projecting or disintegrated thrombus becomes detached and is conveyed along the venous current to the lungs, rapid and sudden obliteration by embolism of the pulmonary artery takes place, and sudden death by asphyxia is produced, a frequent form of fatal termination in pyæmia. The thrombus, by additional deposits of the products of coagulation-necrosis, has an inherent tendency to grow in a central direction. By complete arrest of the circulation at the point of obstruction, with a diminished heart's action, the venous current on the proximal side of the clot is diminished in force, a condition which favors coagulation-necrosis, and consequently also the growth of the thrombus. A thrombus starting in a small vein in the immediate vicinity of an infected wound, by its growth in a central direction, gradually invades larger vessels, and when such is the case the projecting portion into the free lumen of an adjacent larger vein may become detached by the blood-current, and after passing through the right side of the heart is arrested in the pulmonary artery, where it causes a sudden ischæmia of the lungs and death from asphyxia. The formation of infarcts in the pulmonary artery is thus easily explained in pyæmia, but it is more difficult to account for the presence of emboli in more distant organs.

The question presents itself, How are we to explain the formation of metastatic deposits beyond the first filter, the lungs, in more distant parts of the body, as the liver, kidneys, pancreas, brain, and joints? It is impossible for the fragment of a thrombus of any considerable size to pass directly the pulmonary filter, as it is mechanically arrested in some of the branches of the pulmonary artery. The embolus under these circumstances becomes the nucleus for a new or secondary thrombus, which by extension through the pulmonary capillaries may reach directly the systemic circulation, where it serves as a new focus for the dissemination of the specific germs and furnishes the material for systemic embolism. The germs in this secondary thrombus have a more ready access into the general circulation, and by implantation upon the walls of the capillary vessels initiate a pathological condition the same as I have described in the vessels at the primary infection-atrium. I have already informed you that these so-called metastatic abscesses are not true abscesses *ab initio;* their close resemblance to pus led Virchow to apply the term "puriform" transformation in contradistinction to "purulent." He knew that while pus within the vessel was usually absent, if life was sufficiently prolonged the inherent tendency of these deposits was to produce pus, the result, as he thought, of inflammation not within the vessels, but in the tissues adjoining the thrombosed vessel. This, we have seen, is accomplished either by the transportation of infected fragments of a thrombus and embolism, or by direct implantation of the infective germs upon the capillary walls. These germs, again, reach the paravascular spaces either directly or through the agency of wandering cells, and establish here a suppurative inflammation, with the formation of an abscess around the obstructed vessel: a purulent periphlebitis or periarteritis. This is usually the pathological condition we expect to meet with in cases of slow chronic pyæmia as compared with the rapidly fatal form where there is not sufficient time for secondary metastatic suppuration to take place.

In recapitulating the etiology and pathological anatomy of pyæmia, I wish to recall once more the local formation of an infected thrombus at the site of injury or operation, the infection always being due to the presence of pus-microbes, which by implantation upon the intima produce necrosis of the endothelial cells and gradual narrowing of the lumen of the vessel by conglutination of the third corpuscle, which form a mural thrombus, complete obstruction of the vessel being finally accomplished by coagulation-necrosis. An infected thrombus, as we meet with it in pyæmia, is seldom, if ever, removed by absorption; its tendency is to disintegrate and to disseminate the first local pathological conditions by embolism.

Modern research has come to our assistance in correctly interpreting the formation of pus in parts distant from the

primary focus of suppuration. A secondary abscess can only occur after pus-microbes enter the circulation and have found favorable conditions for localization and reproduction in some distant part.

In regard to the prognosis of pyæmia, it may be safely stated that it constitutes one of the gravest complications in surgical patients. When the disease is once fully established, with very few exceptions indeed, it always proves fatal. For reasons we do not as yet fully comprehend, its duration varies greatly in different cases. It may prove fatal in a few days, or the disease may be prolonged for months; and in one of Billroth's cases the patient lived for more than a year. In the acute, rapidly-fatal form, death is produced by ptomaine intoxication from rapid, general dissemination of microbes, —a septico-pyæmia by embolism of the pulmonary artery or implication of some vital organ in the process. Fortunately, even in this dreadful disease we observe efforts on the part of the organism towards localization, and, as the few cases of recovery would tend to prove, a time finally comes when the system becomes tolerant of the germs or the germs ultimately lose their potency. It is a strange fact about pyæmia that while the clinical tendency of the disease, from the very nature of its essential cause, is to progress, the process of this gradual invasion is always attended by pathological conditions which are calculated to retard or arrest infection. In this regard we observe a marked difference between sepsis and pyæmia. In septicæmia the germs are rapidly diffused throughout the entire circulation, and we observe a complete absence of any intravascular conditions calculated to prevent this rapid dissemination. The general condition of a septic patient indicates the existence of an uninterrupted, continuous production and diffusion of ptomaines which soon results in death by toxæmia. In pyæmia, step by step, the system seems to fight against the diffusion of the microbic cause by establishing mechanical barriers in veins, capillaries, and arteries by thrombosis and embolism. This difference must be due to the intrinsic properties of the germs themselves. The microbes of pus produce local conditions favorable to the retardation or arrest of infection at the primary infection-atrium and the distant points of localization. The inflammatory changes within and without the vessel-wall produced by the presence of pus-microbes are well calculated to limit the infective process and explain satisfactorily the chronicity of pyæmia as compared with septicæmia. The pathological feature of pyæmia which determines the unfavorable result principally consists in the inherent tendency of the germs, wherever they may be, to reproduce the identical processes in various parts, and thus indefinitely multiply in the organism the primary local conditions which finally cause death from exhaustion or intoxication, while at the same time the patient is constantly in danger of death by pulmonary embolism or visceral disease of important organs. For instance, a small suppurating pulmonary infarct may produce an empyema which may become the direct cause of death. Again, a small infarct in the liver may become the nucleus of an enormous abscess of the liver, which in itself would constitute a sufficient cause of death. Finally, the transportation of a minute fragment of an infected thrombus into the vessels of the brain may lead to a cerebral abscess with a rapidly-fatal termination solely from this cause.

The danger to life from multiple suppurative polyarthritis, a frequent condition in pyæmic patients, is well known. In the absence of serious visceral lesions, it must be looked upon as a frequent and direct cause of death. While we are more familiar with the manner in which metastatic abscesses are produced in pyæmia, the occurrence of suppurative arthritis is more difficult to understand. It is possible that the synovial membrane is affected in the same manner as the peritoneum in the animals inoculated by Koch, where we have reason to believe the germs reached the peritoneum through the connective-tissue spaces. If this explanation should prove to be correct, it is evident that the occurrence of suppurative arthritis in pyæmia would indicate a grave form of the disease, as it would imply extensive diffusion of microbes beyond the boundary of vessels, and at least in many instances necessarily accompanied by multiple dépôts of suppuration in other parts of the body. As a rule, it can be said that time is an important element in prognosis. In acute cases the processes characteristic of pyæmia progress rapidly from the seat of infection

to distant parts and organs, and the disease is progressive in every sense implied by that term.

Wherever antiseptic surgery is practised thoroughly and intelligently, pyæmia seldom, if ever, occurs. As the disease can only occur after suppuration has been established, it is evident that all measures calculated to prevent suppuration also prevent this disease, and where suppuration has occurred, rigid antiseptic treatment diminishes the danger of pyæmia.

If the curative treatment of the disease has been and always will be unsatisfactory, we are now—thanks to antiseptic surgery—enabled to prevent it almost with certainty in all cases of intentional wounds. It is easier to prevent this disease than to cure it. If antiseptic surgery furnishes almost absolute protection against suppurative inflammation, you can readily conceive that it furnishes the only absolute protection against pyæmia. You must become fully aware of the importance of this assertion in the treatment of small and apparently insignificant wounds, as any suppurating wound may become the starting-point of pyæmia. The prophylactic treatment consists, in brief, in preventing the entrance of pus-microbes into wounds, and in case of contaminated wounds to effect their removal or to destroy their power of reproduction by reliable antiseptic agents, and to guard against accumulation of pus by securing free drainage. Clinical experience and scientific research corroborate the statement that pyæmia is prevented with certainty by preventing suppuration.

It becomes, therefore, your duty to perform every operation, no matter how insignificant, under strict antiseptic precautions, in order to protect the patient against the remotest possibility of incurring this disease. You must treat all accidental wounds as infected wounds, and resort to such a course of disinfection as will transform them into aseptic wounds. I have already informed you that pyæmia is very prone to follow suppurative inflammation in certain tissues and localities where the entrance of germs into veins is favored by anatomical peculiarities. The older surgeons feared wounds of veins and the medullary tissue of bone, on account of the well-known fact that when these tissues were the seat of suppuration pyæmia was liable to follow. Acute infective osteomyelitis and suppurative inflammation of the internal ear and the mastoid process are prone to be followed by pyæmia for the same reason. You will readily appreciate the importance of adopting timely prophylactic measures in the two latter conditions by exposing the seat of suppuration by operative treatment for the purpose of effecting a mechanical removal of infected tissue, and thorough disinfection with a view of preventing the occurrence of an infective thrombo-phlebitis or sinus-phlebitis and pyæmia.

In the consideration of the curative treatment the question naturally presents itself, Can anything be done after we are able to ascertain that the disease exists? Theoretically, it would appear that as long as the infected area remains sufficiently circumscribed and amenable to direct operative removal we should not despair, but should resort to prompt and efficient means to remove the infected tissues, and especially the thrombosed veins, by operative measures. Practically, it would be exceedingly difficult to ascertain whether, in any special case, the infection had not passed beyond all possible reach, and thus rendered any operation useless, and on this account unjustifiable. Where the disease takes a starting-point in a limb, as the medulla of a bone, it is only proper to remove, as thoroughly as possible, the infected tissues by scraping and ignipuncture, or by resorting to a timely amputation. In suppurating wounds not admitting of such heroic measures, the surgeon must content himself with securing free drainage, or with resorting to permanent antiseptic irrigation with a one- or two-per-cent. solution of acetate of aluminum. It is only proper to insist that the parts the seat of thrombosis should be left perfectly at rest, so as to prevent the detachment of fragments by mechanical violence, an accident which is always followed by grave consequences. In all cases where internal metastatic deposits have taken place, it is too late to remove, with any hope of success by operative treatment, the infected tissues at or near the primary place of infection, as the disease will in all probability multiply itself from these distant centres. In such cases it is advisable to support the heart's action with large doses of alcoholic stimulants, from one to two pints of brandy daily, with a faint hope that, by prolonging life for a sufficient

length of time, the disease may, as it were, exhaust itself, and the patient recover after a long and lingering illness. In all pyæmic patients it is advisable to give a daily antipyretic dose of quinine during the remissions, and to support the strength of the patient by concentrated, nourishing liquid food.

ORIGINAL COMMUNICATIONS.

CLINICAL VALUE OF ANTIPYRETICS.*

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IT has been demonstrated that physiological heat-production is the result of metabolic changes in the tissues, and that a delicate balance is maintained between production and dissipation by heat-regulating centres.

Wood finds a heat-producing centre near the conical sulcus of a dog, while Aronson and Sachs locate it near the inner side of the corpus striatum. The pathological evidence consists in the fact that crushing the cervical medulla produces a most exorbitant rise of temperature. Cases are on record of a temperature of 122° produced by injuries to the spinal cord. Moreover, a more intimate study shows that total section of the cord near the pons produces a rise of temperature, but that if the anterior columns are spared such a rise does not take place.

In divisions of certain portions of the cord which especially influence the vasomotor system, as well as in disease of the same portions, there is produced a marked lowering of temperature. The question is of importance to us in determining whether pathological heat-variations are the result of a disturbance of the physiological heat-regulating powers through impressions upon the nerve-centres, or some foreign element introduced into the blood has elevated the temperature by an increase of the tissue-changes. In these days of microbes we find that the claim has been made that fever-heat is the result of a struggle between the system and certain microbic foes.

The suggestion leads at once to the inference that if temperature-elevation be due to changes produced by the presence of bacteria in the blood, or if the fever is the result of some poisonous secretion or material produced by bacteria or of some specific poison acting directly upon the blood, then such remedies as would destroy the activity or life of bacteria, or of such specific poisons, would reduce the temperature. Were the theory a correct one, then antisepsis and antipyresis would be synergistic and synonymous terms.

It leads us to ask, Are antiseptics, then, antipyretics? If so, are they antipyretic because of their antiseptic qualities or because of some other specific action of the drugs?

As we investigate, we find that many of the strongest antiseptics are the feeblest antipyretics.

We need but to mention corrosive sublimate, which is fatal to lower organisms in one part to twenty thousand,—which is ten times more powerful than thymol and benzoate of soda, twenty times as strong as creasote, thyme, and benzoic acid, thirty times as powerful as salicylic acid and eucalyptol, and one hundred times as powerful as carbolic acid and quinine as an antiseptic,—yet no specific antipyretic effect can be attributed to it. 2d. Some of the most active antipyretics are feebly antiseptic,—instancing quinine, carbolic acid, and the benzoates. 3d. As a rule, it is impossible to introduce into the blood of a living organism, and maintain the presence for any considerable time, of a sufficient amount of an antiseptic drug to destroy the activity or life of bacteria therein. It is probable that corrosive sublimate is the one agent that could attain nearer this end than others, but this it could not accomplish without extreme toxic effect.

Again, it is maintained by many that bacteria may exist in healthy, circulating blood (doubtful); that they may exist in diseased conditions without causing an elevation of temperature, as in diphtheria, afebrile pneumonia, hydrophobia, and malarial diseases; and that, while the actual abundance of bacteria in the blood may bear a relationship to the severity of the disease, it does not to the degree of temperature-elevation.

The antipyretic qualities of antiseptic drugs are not manifest until a secondary effect is produced,—namely, a profound impression upon the central organs.

* Read before the New York Medical Association, Third District Branch, at its annual meeting held June 16, at Elmira, New York.

To give the specific authorities for these statements would lead us too far from the purpose of our paper. We then venture the statement that antisepsis does not necessarily mean antipyresis, and present the following class of antipyretics: first, those that retard heat-production; second, those that diminish heat-production and increase heat-dissipation; third, those that increase heat-dissipation. The first class includes quinine; the second, the salicylates, antipyrine, antifebrine, thalline, kairine, hydrocinchonine, and others of the same derivation; the third, aconite, gelsemium, veratrum, and similar remedies, to which may be added cold applications.

Quinine is the most prominent, and it may be said to be the only drug that by its direct specific action diminishes the production of heat alone. This cannot be due to its effect upon malarial poisons, for we find that it will reduce temperature with equal force in pneumonia, typhoid, erysipelas, eruptive diseases, surgical fevers, etc., which do not possess any malarial element.

It cannot be due to its antiseptic qualities, for Binz and others have shown the minimum quantity of quinine necessary to prevent the development of bacteria to be one part to one thousand. It is evident then that with an average of eighteen pounds of blood, it would require one hundred and thirty-eight grains of quinine circulating therein to meet such conditions. Quinine is discharged at so rapid a rate from the blood that we may readily conclude that it would be impossible to administer with safety to the patient a sufficient quantity to affect the bacteria.

Quinine lessens tissue-metamorphosis and diminishes the activity of white blood-corpuscles, but to that cannot be ascribed its profound antipyretic effect. It will lower temperature in the healthy body. It will reduce temperature without a marked exhibition of effect upon the arterial or respiratory system, and without exciting perspiration. We conclude, then, the effect of quinine upon the temperature-elevation is the direct result of a direct and specific action upon the heat-producing centres. We are confirmed in this when we find that it is the only drug which will completely and permanently act upon heat-production so as to prevent the recurrence of fever non-malarial in its origin.

The specific effect of the single dose of quinine on temperature begins in two to three hours, reaches its maximum in five to six hours, and continues from twenty-four to seventy-two hours, and the reduction is sometimes permanent.

The second class, those which both diminish production and increase dissipation, —of which the salicylates, antifebrine, and antipyrine, and drugs of the same derivation may be considered as types,—possess the following peculiarities in general: 1st, their effect upon heat-production is less profound and more variable than quinine; 2d, they rarely destroy the tendency to overheat-production; 3d, they increase heat-dissipation; 4th, except in extreme doses or previous cardiac weakness, they show but a moderate effect upon the heart or respiratory organs; 5th, except where idiosyncrasies exist, their specific effect upon the body-temperature is the result only of sufficient dosage to produce a profound or toxic impression upon the nerve-centres.

The salicylates are second only to quinine, possessing a greater power over temperature-production than antipyrine and its class, and more influence over heat-dissipation than quinine. They rarely destroy the tendency to recurrence of fever, though more often than the others of the second class. They have a moderate effect only upon the heart and arterial tension or respiratory organs. While salicylic acid is strongly antiseptic, its combinations with alkalies are not.

It has been proved that salicylic acid unites with the soda of the blood to form salicylate of sodium. (Bartholow.)

We may reason, therefore, that their antipyretic qualities are not due to their antiseptic powers. Salicylate of sodium will often produce a fall of temperature without causing sweating. (Ross and Nothnagel, p. 468.)

There is rarely any serious after-effect from its administration, except after giving extreme doses. (*Idem*, p. 475.) To obtain antipyretic results large and frequently-repeated doses should be given, when the effect upon temperature begins in one to two hours, reaches its maximum in three to six hours, and generally ceases in twenty to twenty-four hours.

Antipyrine and antifebrine may be taken as types of the remainder of this class. In dosage antifebrine is about twice the strength of antipyrine. Both are easy of

administration. Their specific action upon temperature is temporary, commencing in one-half to two hours after administration of proper dose, reaching the maximum in three to five hours, the effect being then rapidly dissipated. They probably do not prevent the recurrence of a specific fever; they do not possess antiseptic qualities sufficient to influence the condition of the blood, and no perceptible effect upon the white blood-corpuscles; their effect upon heat-dissipation is much more pronounced than with the salicylates; they have a positive effect upon the nervous system, allaying headache, producing sleep, and quieting delirium; they influence the vaso-motor system; they increase perspiration and urine. Serious after-effects, except with extreme doses or previous cardiac weakness, have not been noted. They diminish arterial tension moderately. An occasional measle-like eruption has been noticed as being produced by antipyrine, which readily disappears when it is discontinued. The drugs are applicable to any disease with temperature-elevation.

The third class includes, as we have already stated, aconite, gelsemium, veratrum, and cold. They have no specific action on temperature-production, and centre their effects upon heat-dissipation. They tend to paralyze the heart and respiratory organs, reduce arterial tension, and are sedative to the vaso-motor system. It is claimed that they produce first an increase in the actual temperature by the influx of blood in the paralyzed vascular fields, then a sluggishness of the current, greater evaporation, and a resulting cooling of the surface. A hot bath, antimony, an emetic or cathartic, may reduce temperature in the same manner as other motor-paralyzers; cold acts in a more mechanical way by abstraction of heat. The effects of the class upon increased temperature are temporary, disappearing as soon as the drug-effect has ceased. They are applicable to sthenic cases,—acute febriculæ, inflammations,—and act where doubtless heat-production is normal and heat-dissipation diminishes.

Practically, then, we arrive at the following conclusions concerning pyrexia. Fever-heat is a loss of balance between the producing and dissipating heat-functions. There may be an increased production with dissipation normal, or diminished dissipation with production normal, or other combination of the different conditions. Thus we may have an actual oral temperature of 104° without increased production, which in itself would not be serious; on the other hand, increased production may concur with increased dissipation, not indicating a high temperature-elevation, yet being disastrous in its effects upon the patient. We not infrequently see this in adynamic diseases, where there occurs the prostration, subsultus, delirium, rapid emaciation that we would naturally associate with intense fever, yet without marked increase. Again, we see the further extreme where, production remaining normal or subnormal, an intense impression upon the nerve-centres—the vaso-motor paralysis, with cardiac and respiratory depressions,—we get the excessive dissipation and the resulting collapse of cholera, the nervous shock, the cold stage of ague, the congestive chills, the collapse of yellow fever, etc.

McAllister, in his recent studies of fevers, demonstrates that in fevers there is disturbed, first, the thermotaxic, or heat-regulating; second, the thermogenetic, or heat-producing; and, lastly, the thermolytic, or heat-losing functions. In the beginning of a fever, then, the important indication is to restore, if possible, the disturbed thermotaxic and thermogenetic functions: to give a drug, if we possess one, that will prevent, modify, or shorten the disease. It is not necessary to enter literature, nor illustrate by cases, except to say that an analysis of the opinions of Liebermeister, Niemeyer, Reynolds, Da Costa, Flint, Cleveland, and others, compels the conclusion that quinine aborts some, shortens the duration of others, and ameliorates most cases of fever.

In the advance of the fever it presents a somewhat different aspect. With the hope of aborting the disease gone, the thermogenetic and thermolytic functions disturbed, more or less tax upon heart and respiratory organs and the nervous system involved, we look for remedies where production of heat can be diminished without serious depressions, the elimination increased, and the nervous system quieted, and we find that the salicylates, antipyrine, and antifebrine meet most admirably these needs. Every-day experience proves this beyond peradventure if, as we have no reason to doubt, "the dangers of fevers are more from the prolonged and continuous temperature-

elevation and the resulting disaster to the bodily tissues" than from any other cause. The speedy dissipation of the antipyretic effect is preferable to the more enduring and profound, but proportionately depressing—at this stage—effect of quinine. Again, quinine in antipyretic doses increases cerebral disturbances. Antipyrine and antifebrine allay delirium and possess a distinct hypnotic action. Out of eighteen cases of typhoid fever in which antipyrine or antifebrine was used, we recorded two instances of apparently undue depressant action as a direct result of the drugs. In each instance the administration was towards the close of the fever,—one patient 9 years old, the other 18 years. In the younger the temperature had been normal for three days; through an excitement it rose to 103.5°, and the mother gave ten grains of antipyrine. I found the patient with feeble pulse, some cyanosis, cold extremities, nausea, temperature 97°. A few doses of carbonate of ammonia and whiskey brought a quick restoration. In the second the temperature had risen to 103°, when ten grains of antipyrine were given by the nurse, and the dose repeated in an hour without taking the temperature. The symptoms an hour later were similar to those of the first case, and, like that, soon responded to stimulants.

The lesson of the two cases is that, at the closing stages of a fever, the order is reversed, and we have, first, a restoration of the thermolytic; second, the thermogenetic; and, lastly, the thermotaxic power. Just here nature tries to conserve her forces for the natural reaction of fevers, when the taxed muscles, the weakened heart and respiratory organs need the most judicious management. To give at this stage an antipyretic—that is, to diminish production or create an over-elimination—might be easily disastrous. We should withdraw all antipyretics, and resort to stimulants and tonics. Cold should be used in the earlier and middle stages of a fever, where by its mechanical effect it assists in the general purpose of fever-reduction and subserves the comfort of a patient.

From the records of the eighteen cases referred to in which antipyrine was used, we note that there were two cases of intestinal hemorrhage: one several days after convalescence had begun, and nearly ten days subsequent to any use of antipyrine, caused the patient's death. In the other hemorrhage was slight and of short duration, and had no relation to drugs administered. There were two deaths: one from hemorrhage, as above stated, and one from excessive cerebral complications and previous bad condition.

Occasionally a peculiar susceptibility exists, and full effect is obtained from small doses; and, again, in some instances the maximum doses were required to get the desired result. We found but one case where the measle-like eruption appeared.

The third class of antipyretics should only be used in the active sthenic stages.

The typical treatment of fevers should be:

First thermometric stage: abort; modify; shorten duration by quinine assisted by heat-dissipaters.

Second thermometric stage: keep temperature below 103° by salicylates, antipyrine, antifebrine, assisted by cold applications, lowered surrounding temperature, hydrogenized food.

Third thermometric stage: feed; stimulate; use nerve-sedatives and tonics.

Lastly. The antipyretic effect of quinine commences about the third or fourth hour; reaches its maximum in the sixth or eighth hour; continues its effect from twelve to seventy-two hours, and sometimes permanently. Salicylates commence the second or third hour, reaching the maximum in four to six; and continue their effect twelve to fifteen hours. Antipyrine, antifebrine, and this class commence their effect in one-half to one hour; reach the maximum in two to three hours; continue their effect three to six hours. Aconite, gelsemium, etc., commence their effect within the first hour, reaching the maximum in from two to five hours; the effect dissipates soon after ceasing administration of drug.

NEW METHOD OF MANAGEMENT OF THE PATELLA IN AMPUTATIONS AT THE KNEE-JOINT.

BY Z. H. EVANS, M.D.,
Bay City, Michigan.

ON the 13th day of August, 1872, I was called to see Rev. Harvey Peirce, aged 65, minister of the gospel, who had just sustained a compound comminuted fracture of the upper third of the leg, implicating the knee-joint, caused by the kick of a horse. The case being one demanding

amputation at the knee-joint, I proceeded at once, with the assistance of Dr. Hosmer, to operate by making long posterior and short anterior flaps (Hoin's method).

In making my flaps I cut the posterior too short, so much so that if I had removed the patella I would still have lacked sufficient tissue in my anterior flap to have brought it in proper apposition with the posterior. In this extremity I decided to excise the condyles at their face, which having removed, my flaps came nicely together, bringing the *patella immediately over* the end of the shaft. The patient made a speedy recovery, riding out to church in a few weeks from day of operation. In a subsequent case of exsection of the knee-joint followed by gangrene of the foot, making it necessary to remove the leg, I operated as in my first case (the condyles having been removed in the first operation by exsection), with good result. The patient died a year after with apoplexy, and upon post-mortem examination of the stump I found the patella firmly united to the end of the femur by *bony* deposit. I am of the opinion that bony union of the patella and end of the femur will take place without sawing through the lower surface of the patella, as practised by Gritti and modified by Stokes and others. I am disposed to believe that, by reason of the greater firmness and less liability to tenderness of the stump, also in the degree of retention of the purchase of the quadriceps muscle, this operation is preferable to those recommended in our late works on surgery. By this method the leg retains its full strength for future use in the adaptation of an artificial member.

THE USE OF COLD WATER IN THE TREATMENT OF TYPHOID FEVER, WITH TWO CASES.

BY S. P. ALLEN, M.D.,*

Whitney's Point, New York.

WITHIN the last few years much has been said and written, I am aware, upon the use of so-called antipyretics in the treatment of typhoid fever, and, if properly used and carefully watched, they are undoubtedly of great importance in the treatment of these cases. But, on the other hand, if used indiscriminately and by way of routine, they may be, and no doubt have been, worse than no treatment. I think that it is admitted by all at the present time that typhoid fever belongs among the so-called self-limited diseases, and that the majority of cases occurring in civil practice where the temperature does not rise above 103° would recover without much if any medication further than absolute rest, with plenty of good air and careful diet.

That there are exceptions to this rule I am free to admit, and it is in just those cases that the antipyretic treatment is capable of being useful and doing most good.

There have been various remedies used for this purpose, and no doubt all have done some good, and each have their advocates. Among those that have been used most I might mention quinine, antipyrine, and cold water. But it is only of the latter that I wish to speak, and I will give the history of two cases among the many that have occurred in my own practice, and that were treated mainly by the use of cold water. I select these cases because of the extreme high temperature that prevailed during so much of the time in the course of the disease.

Case I.—October 11, A.M. Was called to visit A. P., aged 21, by occupation a farmer, and all his life up to this time had been strong and healthy and accustomed to hard work. He had been sick five days when I first saw him, and at this time the following symptoms were present. Epistaxis had been quite persistent, at times, for three days; face dark, almost purple; slight cough; iliac tenderness; ochre stools; drowsy, with more or less muttering when not disturbed; severe headache, also complained that the light hurt his eyes; tongue dry, with heavy, dark coat; pulse 100, temperature 103°. Treatment: ordered him to be sponged with tepid water every two hours. I gave as a sedative aconite and spirits of nitre.

October 12, 9 A.M. Temperature 104°; other symptoms about the same. I then wet a sheet in water at 70°, folded it and wrapped it around his body, and used water at 65° to sponge his limbs and arms, and at intervals of fifteen or twenty minutes would sprinkle water at 65° on the sheet. Continued this for two hours, when temperature was 103°; left sheet as it was, and after one hour temperature was 102°. I left the thermometer with nurse, and, after instructing her how to use it, told her to use the water every two hours if the temperature should exceed 103°, and by this

* Read before the New York State Medical Association, Third District Branch, at the annual meeting held June 16 at Elmira, New York.

means we succeeded in keeping the temperature at 103° or less for eight days.

October 19, 8 A.M. Called and found that he had passed a very restless night; had had considerable hemorrhage from the bowels, and had been very delirious; tympanites had increased considerably; pulse 115, temperature 106°; and because of these symptoms the nurse had neglected to use the water since midnight. After looking the case over carefully, I resolved to persist in the use of the cold water, thinking that if I could again reduce the temperature I might yet possibly save my patient. Accordingly I concluded to wrap him in the sheet as before, with water at 65°, and left but little else over him, and told the nurse to sponge his arms and limbs, and every fifteen minutes to wet the sheet with cold water. This we continued for four hours, when temperature was 104°. I then removed the sheet, wiped him dry, and left him for four hours. 4 P.M., temperature 104°; no more hemorrhage from the bowels; pulse 105; sleeping; had used turpentine and opium for bowels. 8 P.M., temperature 104°; used cold water same as before for one hour, when temperature was 103°; left sheet around him, and ordered arms and limbs to be sponged every two hours during the night; gave two grains of quinine every four hours, with tablespoonful of whiskey in glass of milk between.

October 20, 9 A.M. Pulse 95, temperature 102¼°; removed sheet, which was dry now, and ordered sponging to be continued every two hours; other treatment same as before. 6 P.M., temperature 103°; continued same as before.

October 21, 9 A.M. Temperature 102°; no more trouble with bowels; less delirium; pulse 90; tongue beginning to moisten; continued as before, except opium and turpentine. 5 P.M., temperature 102½°; bowels moved twice, no blood; pulse 88; continued as before.

October 22, 11 A.M. Temperature 101½°; one movement of bowels during night; pulse 85; continued quinine and whiskey, and sponging every four hours unless he asked for it oftener, for he had begun to want it: said it made him feel better. 6 P.M., temperature 102°; continued same as before.

October 23, 9 A.M. Temperature 100°, and it did not again exceed that.

I continued the quinine and whiskey for another week, with plenty of milk and beef-tea, at which time I considered the case comparatively out of danger and discontinued my visits. The case went on favorably and made a good recovery.

Case II.—April 6, was called to see J. B., aged 18 years. Had been sick then three weeks, under the care of a neighboring physician.

I found the following symptoms present:

There had been more or less hemorrhage for several days, but for the last few hours it had been more profuse, and with an evacuation which occurred just as I came to the house I should think there was at least half a pint of fresh blood. Tympanites was well marked; pulse 130; temperature 106¼°, with low, muttering delirium when not disturbed; tongue moist, but very red.

I suggested cold water externally, with the use of opium, whiskey, and turpentine internally.

The family, thinking that the patient must die, were willing to try anything; accordingly, a wash-tub half full of ice and water was brought in the room, and, taking two sheets, I folded them so that they would cover the body from the pubes to the breasts. After laying one on the ice until it was cold, I proceeded to cover the whole anterior of the body, and placed the other on the ice. They were changed every fifteen minutes for an hour, and after that every thirty minutes for two hours, when the temperature was 103°. I then ordered them to be changed every hour, and left for four hours. On my return I found temperature 101½°; no hemorrhage; pulse 118; patient sleeping quietly.

I then ordered them to use the water at about the temperature of the room, and change every two hours. Continued opium and whiskey, and also two grains of quinine every four hours.

This was followed closely for one week, except twice for a few hours, when we again used the ice-water, in order to hold the temperature at or about 103°.

At the end of the week temperature was 100°, and did not exceed that again.

Convalescence in this case was slow, yet the patient made a good recovery.

Since that time I have treated several cases in the same way, without losing a single uncomplicated case, and I have seen convalescence well established as early as the eighteenth day. I feel assured that in the majority of these cases, if we can hold the temperature below 102½° or 103°, very little other medicine will be required.

The following conclusions which were given by Dr. Austin Flint, after closely watching the effects of cold water externally in the treatment of seventeen cases of typhoid fever that came under his care in Bellevue Hospital some years ago, are sustained by the results in thirteen cases that occurred in my practice since that time:

1. That by the use of cold water externally in cases of typhoid fever the temperature of the body may, after a variable time of its continuance, be reduced to 102°, or even lower.

2. After a period varying very much in different cases, and also at different times in the same case, the temperature rises as high or higher than before the reduction.

3. Upon repeating the employment of cold as often as the axillary temperature exceeds 103°, the number of repetitions necessary is extremely variable in different cases.

4. The sponge-bath, with the wet sheet and sprinkling, may be employed to the exclusion of the bath-tub in the treatment of typhoid fever.

5. These modes of employing cold water may be continued sufficiently long for the reduction of the temperature to 102°, or even lower, and repeated as often as may be required, without fear of injury. And the study of these cases furnishes no ground for supposing that a liability to complications or accidents is thereby increased; and that the reduction of the temperature by these modes, as often as it rises above 103°, improves the condition of the patient.

6. The results of the analysis of those cases where cold has been faithfully used afford us encouragement to employ it with the expectation of diminishing the severity of the disease and its danger to life.

TRANSLATIONS.

THE CONSTIPATION OF PYREXIA.—Experimental researches of Professor A. Bokai refer the constipation of the bowels which usually accompanies fevers to the effects of the elevated bodily temperature upon the nervous system.

The conclusions drawn from the series of observations are as follows (*Archiv für Experimentelle Pathologie und Pharmakologie*, August, 1887):

1. The reduced amount of nourishment taken by persons sick with fever may favor the occurrence of constipation, but the condition is especially explained by the fact that during the course of the fever the inhibitory nerves of the bowel are in a condition of increased irritability.

2. The exalted irritability of the inhibitory nerves of the bowel during the fever is connected with the increase of the bodily heat, and is a result of it.

3. If the temperature in the rectum, in animals, be raised (by Bernard's apparatus) to 39° C., and not over 42.5° C., the irritability of the inhibitory nerves of the bowel is always evident, and can be reduced by small hypodermic injections of morphine.

4. A bodily temperature going higher than 42.5° C. brings about a paralysis of the inhibitory nerve-fibres of the intestine.

TREATMENT OF SYPHILIS BY HYPODERMIC INJECTIONS OF PHENATE OF SODIUM.—Dr. K. Schadek (*Medicinscoie Obosrenié*, No. 6) reports a new treatment for syphilis. Last year Professor Gamberini proposed to treat syphilitic infection by the double antiseptic, the phenate of mercury. This is a yellowish powder, having a very decided carbolic acid odor, which is obtained by mixing a solution of corrosive sublimate with one of phenate of potassium. This was given by Gamberini in pills of a thirtieth of a grain, of which from two to six were given each day. Drs. Schadek and Troitzki have also used it by injections both subcutaneous and deep.

The injections were not painful, or only slightly so. A two-per-cent. solution in an emulsion of gum arabic was ordinarily used for subcutaneous injections. Dr. Troitzky found that ten injections were sufficient in the majority of cases to cause the syphilitic phenomena to disappear.

In résumé, the author found that the phenate of mercury is superior to all the other mercurial preparations employed by injections. This superiority is due to (1) the rapidity of its action when administered in this form, (2) the absence of any pain or tenderness in the tissues after the injections, and (3) the relative rarity of unfortunate accidents such as stomatitis growing out of the use of the mercurials.—*Bulletin Général de Thérapeutique*, July 30, 1887.

LIGATURE OF THE THYROID ARTERY IN GOITRE.—At the recent German Congress of Surgeons, Dr. Woelfler reported the case of a woman, æt. 45, in whom this operation was done in consequence of an error of diagnosis. The patient came to the clinic with a high grade of dyspnœa, and said that the goitre which was present had been of the same size for years; later it proved itself to be carcinoma. The recovery was without a bad symptom, and the patient left the institution in four weeks. The dyspnœa was gone, and the circumference of the neck was less. In four weeks, however, the difficult breathing returned and the patient came again to the hospital, where a little later she died. On post-mortem examination the author found that the right half of the thyroid gland, in consequence of a necrobiotic process, was notably diminished in size.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 3, 1887.

EDITORIAL.

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

FROM the time the announcement was first made to the world that the International Medical Congress at Copenhagen had formally accepted the cordial invitation extended by the American Medical Association on behalf of the profession of this country to hold its next meeting at Washington, this journal has never lost faith in the success of that meeting, nor failed to advocate it. As might have been anticipated, it has given rise to some heart-burnings in the profession here, particularly among a certain clique who early tried to monopolize all the offices, but happily the attempt was frustrated; the American Medical Association proved equal to the great emergency, and a proper preliminary organization was effected. By this time the few disaffected ones, who exerted themselves to the utmost in order either to prevent the Congress from meeting in this country at all or to make it a failure by inducing all the prominent European members to remain at home, have probably seen the error of their ways, and are applicants for admission to the Congress which they sought to destroy. Let the cloak of charity be thrown over them, and let them come in: the demonstration of the trifling amount of influence which they were able to exert may afford them a useful object-lesson.

The medical journals, however, which opposed the Congress are in a different position. They abused the trust reposed in them, and deliberately did all in their power to discourage and defeat the efforts of those who were laboring to establish the foundation for a successful meeting. It cannot be expected that they will be allowed to get off so easily. Their offence cannot be readily forgotten nor forgiven. Their publishers can best tell the results of incurring the censure of the profession.

But these questions are not for our guests. We bid them cordial greeting. They shall be met with welcomes wherever they choose to go. Entertainments in New York and Philadelphia have already been given to members on their way to the Congress. During the coming week engagements are announced on the programme as follows: Monday evening, from 8 to 11, conversazione in the large United States Pension Hall at Washington; Tuesday evening, visit to the Corcoran Art Gallery; Wednesday evening, from 8 to 12 o'clock, reception by the citizens of Washington; Thursday evening, from 8 to 11, general reception and buffet banquet at United States Pension Hall; Saturday afternoon, a visit to Mount Vernon. The whole to terminate with an excursion to Niagara Falls.

The scientific papers are numerous and varied, and the indications certainly are in favor of a Congress which shall not be inferior to its predecessors in interest or value.

A MEDICO-LEGAL DECISION AFFECTING LIFE-INSURANCE.

THE insurance companies are frequently found contesting the payment of policies of deceased members, and in a recent case the United States Mutual Accident Association refused to pay a policy where the assured died with malignant pustule. It appeared that the deceased was employed at a place where hides and cattle were received, and that the cause of death was "a putrid animal substance on the exterior of the body working inwardly, and usually communicated from the bodies of animals suffering with diseases of the hair." The policy insured

against death from "external, violent, and accidental means," and excepted death "by taking poison."

The question was whether there could be a recovery under the policy, and the court decided that there could be. The reasoning of the court is interesting, and we quote as follows, at length:

"The word 'poison' therein is used in the ordinary meaning of a substance taken internally, seriously injurious to health, and often fatal to life.

"'Death by poison' is well understood in ordinary language. It is a phrase which would never be applied to death from a rattlesnake-bite, although that injects into the circulation what may be called a poison.

"In certain cases death comes from what is called 'blood-poisoning.' One who dies from a bullet-wound may die of 'blood-poisoning,' but he does not die from poison in the ordinary sense of the word.

"The insured died from what is known as malignant pustule. This is produced invariably, according to the testimony, 'by the infliction of animal substance upon the body,'—by the accidental deposit of this putrid and poisonous animal substance.

"This is usually communicated from the bodies or skins of animals which are suffering with this peculiar kind of disease.

"The substance may be carried by flies that have been feeding on it. The disease may come by the application of the person himself, of his hand, which has been in contact with this substance, to some abraded surface of his body; and the substance may be absorbed by the thin portions of the lips, though they are not abraded.

"The means through which deceased came to his death were external. The positive testimony of the physician shows this. The putrid animal substance reached the body, not through the stomach or lungs, but through the skin, the external covering. The cause was external as much as the crushing under a car or the bite of a rattlesnake would have been."

The gist of the decision is that, in a death of the character mentioned, the deceased could not be said to have "taken poison."

LEADING ARTICLE.

THE GUIDING PRINCIPLES OF TREATMENT IN EXCESSIVE CORPULENCE.

IT must be apparent to every observant physician that cases of excessive corpulence are becoming more frequent in this country. One reason for this greater frequency is probably to be found in the increase in number of persons who live a life of ease, who have no business or occupation to stimulate mind or body to exercise, and who have abundant means to gratify their tastes and inclinations in every particular. Most cases of acquired corpulence will be found in this class after middle age, while the hereditary tendency to excessive fat-production usually manifests itself earlier in life.

The first writer who clearly formulated the causes of corpulence was Brillat-Savarin, the brilliant author of the "Physiologie du Goût." He gives the following as causes of excessive accumulation of fat in human beings: heredity, excess of starchy and saccharine foods, too much sleep, too little exercise, and intemperance in eating and drinking. Although many advances have been made in our knowledge of food-assimilation and metabolism in the last half-century, the shrewd observations of this man of the world upon the nature, causes, prevention, and treatment of corpulence have not been superseded by modern physiological research.

Fat-tissue is formed from each of the three classes of materials which constitute the food of man,—namely, fats, proteids, and carbo-hydrates.

Animal and vegetable fats contained in the food are absorbed by the intestinal mucous membrane. Through the agency of the bile, which moistens the villi and emulsifies the fat, the latter may be taken

up and deposited as fat without first undergoing decomposition in the intestinal canal. Evidence in favor of this form of accumulation of fat has been furnished by Lebedeff and Munk. These observers fed animals upon special fats (such as rape-seed oil), and afterwards demonstrated the special fat used in the feeding experiments in the fat-tissue of the animals.

It is a curious fact that fatty acids may perform the same function in nutrition as the neutral fats. A reconstitution or synthesis of fat from fat acids and glycerin is supposed to take place in the absorbent vessels, thoracic duct, or tissues. The nutritive properties of the fatty acids have even been taken advantage of for therapeutic purposes, and it has been found that equally good results have been obtained from the administration of pure fatty acids, as palmitic and oleic, or their combinations with alkalies, as from the fats,—*e.g.*, cod-liver oil or similar nutrients themselves.

A second source of fat in the body is the decomposition of proteids. It has been shown by a number of investigators that the consumption and assimilation of food containing no fat results, nevertheless, in the formation of fat-tissue and fatty secretions. Thus, the fat contained in milk is largely in excess of the fat taken in with the food. It must therefore necessarily be formed in the body out of non-fatty materials. Carnivorous animals (dogs) deprived of fatty food, and nourished almost exclusively on proteids, yet produced fat. The formation of the higher fatty acids, palmitic and oleic, from decomposing meat-powder freed from fat, has been demonstrated by Salkowski. The process of fatty degeneration of muscular tissue is strong evidence in favor of the conversion of proteids into fat. This evidence is very much strengthened by the circumstance that in acute phosporus-poisoning the rapid fatty degeneration of proteid tissues which takes place in this condition is accompanied by an enormous excretion of urea, showing great destruction of albuminoid tissue.

The production of that curious substance known as adipocere, under certain conditions of albuminoid decomposition not yet well understood, also seems to speak in favor of the derivation of fats from proteids.

Liebig gave the weight of his great authority in favor of the view that the carbo-hydrates are the most fertile, if not the only, source of fat in the body. As pointed out above, the great physiological chemist had been anticipated in this opinion by the gastronomer nearly a quarter of a century.

For many years this view of the principal derivation of fats from carbo-hydrates held sway in physiology, but the experiments of Pettenkofer and Voit seemed to disprove the direct conversion of carbo-hydrates into fats, and it came to be accepted and taught that "no fat is produced directly from the carbo-hydrates consumed."* Recent experiments have, however, shown conclusively that, although the quantity of fat derived from carbo-hydrates is limited, this source of fat-production cannot be excluded. These food-materials have indirectly a large influence in the accumulation of fat by reason of their easy decomposition, which enables them to act as conservators of other food-constituents, which latter may be converted into and deposited as fats. The carbo-hydrates may therefore be principally looked upon as economizing the consumption of proteids and fats.

While it is probable that proteid tissue can only be built up by the proteid substances contained in the food, yet when the food consists exclusively or principally of the latter, the decomposition of proteids in the body is so great that actual loss of proteid tissue results. This has been well shown by an experiment of Rubner. He consumed for several days nearly three pounds of meat per day, but found that, after the second day, the nitrogen excreted in the form of urea exceeded that taken into the body in this enormous quantity of meat. In other words, on an exclusively proteid diet, although excessive, the proteid waste was greater than the income. But the addition of a moderate quantity of fats and carbo-hydrates reduces the proteid waste, and there is consequently a proteid gain. This is an important point to be remembered in combating corpulence by dietetic means.

These facts may be briefly summarized as follows:

Fat-tissue may be derived from (*a*) fats, (*b*) proteids, and (*c*) carbo-hydrates.

Fat consumed with the food is probably the principal source of fat-tissue.

* Landois: Lehrbuch der Physiologie, 2te Aufl., 1881.

The next most prominent source of fat tissue is proteid food-material.

Carbo-hydrates are converted into fat to a limited extent, but are principally useful as oxidizing and conservating foods.

The normal balance between proteid income and expenditure cannot be maintained on proteid food alone. Fat and carbo-hydrates are required to prevent proteid waste.

Bearing these facts in mind, we may proceed to inquire under what circumstances fat is accumulated in excess in the body.

The standard diet for an average man who does a moderate amount of work has been fixed by Voit at one hundred and eighteen grammes proteids, fifty grammes fat, and five hundred grammes carbo-hydrates. Under this diet the balance between income and expenditure, both of nitrogenous and non-nitrogenous constituents of the body, should be maintained. If, however, the individual whom this just suffices to keep in equilibrium were required to perform excessive labor, or any one of the classes of foods were reduced, he would lose weight, and probably strength. If, on the other hand, he would maintain perfect rest, or either the proteids, fats, or carbo-hydrates were increased, he would, other things being equal, accumulate fat. Should the proteids consumed be diminished while the non-nitrogenous foods are increased, an increase of fat with diminution of proteid tissue would result. If excessive, the form of corpulence known as the anæmic is produced. In this form there is progressive diminution of muscular tissue and red blood-corpuscles, and increase of adipose tissue.

It is well known that anæmic individuals are very liable to become corpulent. Chlorosis and corpulence are not infrequent concomitants. Stock-raisers are familiar with the influence of anæmia upon fat-production, and take advantage of it to fatten their stock by frequently bleeding the animals. It is also often seen that persons rapidly become fat after suffering large losses of blood. In the latter case the fat-production is promoted by prolonged confinement to bed.

Too much sleep and too little exercise promote the accumulation of fat, because the excess of fat over that needed for combustion is deposited as fat-tissue. More active exercise would burn up this excess. The experiments of Fisk and Wislicenus and of Frankland have shown that excretion of carbonic acid and the production of heat during work are greater than could be accounted for by decomposition of proteid tissues. Hence it is necessary to assume that an increased destruction of non-nitrogenous constituents of the body takes place during active exercise. Pettenkofer and Voit have shown this by actual experiment, and the latter investigator has estimated that during ten hours of hard work eighty-two grammes more fat are used up in the body than during the same period of rest. The great importance of a knowledge of this fact will become evident on a moment's consideration. It shows that the laborer requires a larger proportion of fatty or carbonaceous food than the idler. Physiologists long regarded the laborer as a foolish fellow when he preferred fat pork to lean beef or chicken for his dinner. Imbued with an erroneous theory which assumed destruction of proteid tissue during work, it was believed that the only method of repairing the proteid waste was to crowd in albuminoid food. The laborer's common sense taught him the true demands of his system long in advance of the physiologist's experiment. The idler and the hod-carrier can maintain their proteid standard on practically the same quantities of nitrogenous food, but the former requires a much smaller proportion of fat and carbo-hydrates. The corollary to be drawn from this is that the easiest way to get rid of an excess of fat is to burn it up by active exercise.

A point of importance to be remembered in this connection is that the amount of fat destructible (oxidizable) by muscular exertion is proportional to the state of muscular development. Hence one of the difficulties of getting rid of an excess of fat in very corpulent individuals by exercise alone lies in the weak muscular development of these individuals.

(To be continued.)

TONSILLITIS.—Let the patient wet his fore-finger and dip it into powdered bicarbonate of sodium. The surface of the tonsil should be rubbed with the end of this finger every five minutes during half an hour, afterwards every hour during the same day. Three applications a day are then sufficient. The author since adopting this treatment has not had to lance a single inflamed tonsil.—*Lyon Médical.*

NOTES FROM SPECIAL CORRESPONDENTS.

PARIS.

KIDNEY Ballottement.—Professor Guyon has indicated a sign that will allow a surgeon to detect an augmentation of the kidney, during its initial period. Hitherto this had not been possible, and, as it is of considerable importance in the early diagnosis of renal complaints, we will state his method. First, as to the method of exploration. M. Guyon remarks that it is usual, in attempting the palpation of the kidney, to get the patient to flex the legs and thighs on the pelvis; but this attitude only seems to make them contract the abdominal muscles, and renders the exploration of the kidney more difficult; so that he finds it preferable to allow the patients to remain quietly in the horizontal position, only taking away the pillows and telling them to breathe slowly and quietly. Then he slips his right hand flat over the posterior region of the kidney, and insinuates the index and medius fingers into the costo-iliac space, and proceeds to raise up this part of the lumbar region by making sharp and repeated pressure. Up to now these shocks have been used to arouse the sensibility of the kidney, which is nearly always manifest in nephritis. However, it is well to commence by searching for pain, as it will be the guide of further exploration. If the pain be severe, the shocks needed to show the *ballottement renal* must be given with great care, so as not to arouse the reflex contraction of muscles, which will interfere with Guyon's sign. The left hand of the operator is now placed flat on the anterior abdominal wall with slight compression, varying according to the case, while the right hand continues the slight shocks until the *ballottement* is felt against the left hand, with something of the same sensation as the abdominal *ballottement* from the fœtus felt in the early months of pregnancy. The pressure of the left hand must not be extreme, because then the kidney will not have room enough, as it were, to move upward and give the sign sought for. When the left kidney is to be examined, owing to its situation, the abdominal hand must be placed higher than on the right side. It must be insinuated under the false ribs a little if possible. This kidney-shock, or *ballottement*, when felt, indicates clearly *an augmentation in the volume of the kidney, and it cannot be obtained when the organ preserves its normal size.*

What is the diagnostic value of this new sign? It is of importance to reveal any slight increase in the size of the kidney *as soon as possible* in all malignant affections of the gland, because its extirpation will be just that much less dangerous and so much more easy as it is least developed. Thus all the kidney-tumors, hydronephroses, renal tuberculosis, and all forms of surgical nephritis will now be better diagnosticated by attempting to get Professor Guyon's sign, and so judging of the slightest augmentation of volume of the kidney, and, as it increases, of the advisability of operation.

Antipyrine.—The application of antipyrine seems to extend day by day. Professor Germain Sée is one of its decided partisans in its use against pain, and goes so far as to count on it in the place of morphine. Its easy solubility allows of its use in subcutaneous injections, and Dr. Sée adopts this form for rheumatic pains in half-gramme doses. It must be stated, however, that at the same time three grammes are given by the mouth, with the result of nearly always calming the pain both in chronic rheumatism and in acute gout.

M. Sée also states that he cured three cases of tic-douloureux, and also cases of painful zona, lumbago, megrim, hepatic colic, nephritic colic, angina pectoris, asthma, and a long list of other troubles, including heart-pains. Professor Sée does not hesitate to conclude that it can entirely replace morphine, and certainly it has not the inconveniences of that drug; but will it always have the fidelity of action that it has against pain? Time alone can tell. At the present moment all the great hospital services are trying antipyrine in all sorts of troubles, so that in a few months its remarkable sedative influence will be investigated enough to enable us to report more fully upon it.

M. Chouppe reports to the Société de Biologie that he had occasion to employ antipyrine in rectal injections to calm uterine colic. In one case a woman was suffering with intense after-birth pains, and an injection containing one gramme of the drug removed the pain. It returned after several hours, but a second injection was given with the result of a definite cure. A second observation was that upon a woman who for several years had violent colic at every menstrual period, which lasted several hours at a time; relief could only be obtained with great difficulty by the use of doses of laudanum or chloral large enough to produce profound sleep. At her last menstrual period, during a most violent attack of pain, one gramme of antipyrine was given by rectal injection, with the result of complete and definite calm being established within a quarter of an hour.

The same author also spoke of the "Reciprocal Action of Antipyrine and Strychnine." He made a number of experiments to see if antipyrine in large doses would modify the form and intensity of strychnine-convulsions, according to a suggestion of Professor Brown-Séquard. He found that the convulsions produced in animals by antipyrine did not at all resemble those of strychnine in three important points: 1st, they were not brought

on by peripheric excitation; 2d, their form was not so tetanic, they consisted of a series of rapid clonic convulsions without any real tetanization of the muscles; 3d, they did not act so much on the muscles of respiration, and this function was not at all suspended with danger of asphyxia, as in strychnine convulsions. Adding the action of strychnine to antipyrine, M. Chouppe injected into the veins of an animal which was already in a state of convulsion from antipyrine a dose of strychnine that should have killed it; but the antipyrine convulsions were simply replaced by strychnine convulsions, and the animal did not die. Then a stronger dose of antipyrine was injected into its veins, which caused the strychnine form to give way to the antipyrine convulsions. The result of various experiments seems to establish that the action of antipyrine to some extent prevents the convulsions of strychnine by reducing the power of the spinal marrow.

Embarras Gastrique.—Professor Peter says he passes a large part of his life talking against bad doctrines and bad medical language, and he considers the above title to be another of the wrong expressions made use of in medicine. Properly, it is intended to express a difficulty in accomplishing a function without any material obstacle,—disordered stomach, in fact; but it almost always is wrongly used, the real trouble being true gastritis. Dr. Peter brings a case before his clinic to prove this fact.

"A young man of 30 years had been examined two years before at a hospital, and the diagnosis given was *embarras gastrique*. This was as false as it often is; for, besides his functional digestive troubles, he had then pain in the epigastric region and slight jaundice, so that it was a real disease, more or less persistent, of the mucous membrane of the stomach, and not a mere disturbance of its function. His history goes to prove this also: he works very hard in a wine-shop, filling bottles, and absorbing the alcoholic vapors, as well as drinking two quarts of wine that he is allowed, not to mention some beer and several doses of bitters, which he takes, so he says, to raise his appetite. His treatment two years ago did him no good, for he continued his habits, with the result that he is now seriously ill. He has cephalalgia, sharp pains in the left hypochondriac region, and extreme prostration with some fever. The digestive difficulty is very marked. We find the spleen very large, with the liver in the same state of congestion, and an impossibility of retaining food of any kind; bleeding from the left nostril exists, and he has petechiæ on his body. So that we have here a patient who is overworked, and indeed poisoned, and all the viscera suffer in consequence. The spleen measures in a vertical direction nineteen centimetres. It is painful upon pressure. This is a fact confirmed by observation in regard to the increase of the spleen in typhoid fever, variola, etc., and in the bad state this man is in he has stored up there in the same way all the products of disintegration. We said that he had 'bleeding from the nose *on the left side*,' and that this fact is a symptom of splenic disease has been handed down to us from Hippocrates, and, passing by Galen, lately our learned friend Professor Verneuil calls our attention to it again. The liver is also increased in size, and the exaggerated increase of the bile-secretion is what Stoll calls 'polycholia:' so that our patient has splenitis and hepatitis, with bilious stools. Our prognosis is very serious.

"What can we do against all these various lesions? In many cases we act through the stomach with our medicines; but here the stomach will not retain anything, let alone drugs, so that we will use revulsion; and you will all testify to the considerable benefit we derive from this therapeutic agency that we have striven for years to insist on the use of, on account of its being so much neglected."

At a later clinic Professor Peter said, "The serious prognosis I gave in regard to the patient you saw last week has happily not been confirmed. I applied at once a large blister to his epigastric region, and the day after his vomiting stopped, so that he could take a little food. Forty-eight hours afterwards a new blister was put on the splenic region, with the result that the pain went away, and to-day the man says he is all right; he has no more pain, and can digest his food. The spleen now measures eleven centimetres instead of nineteen. This man has been in such a low state that I thought at one moment of trying transfusion of blood, and I would have certainly tried subcutaneous injections of ether, which gives such excellent results in serious cases of hemorrhage. But we are relieved of all anxiety by vesication, and I once again, for the thousandth time, call your attention to the marvellous effects of this old remedy of revulsion, which has been allowed to fall into undeserved neglect in these modern days."

Refrigeration of the Healthy Member in Sciatica.—Considerable use is made in France, in the treatment of sciatica, of Professor Debove's method of refrigeration of the line of the painful nerve with chloride of methyl. M. Jacquet now states that immediate cessation of pain can be obtained by refrigeration *of the healthy leg* (!) In ten cases so treated he obtained six cures, which lasted for several days only, however, so that the duration of cessation of pain is much less than by the usual method, and the effect seems to diminish by use. M. Dumontpallier said that these results are in accord with those that he had observed, and he thought he could explain them by admitting that all these actions are produced because the pain has a central ori-

gin. What happens in the case of the sciatic nerve is analogous to what is seen in the stitch in the side in pleurisy and pneumonia, for instance, which will often give way under the influence of a blister *applied on the healthy side.*

M. Ch. Richet said that when one hand was exposed to cold the other one felt in a short time a spasm similar to that felt in the opposite hand. This is a reflex action of the same order, as is well known.

Restoration of the Lower Jaw with the Bone of a Calf.—Professor Richelot read a report of this case at the Société de Chirurgie. It was a young girl of 16, who had been subject to frequent attacks of hysteria, and came to Dr. Richelot for a congenital malformation of the jaws which made mastication almost impossible. The lower jaw was most affected, as its left side was thrown downward and outward, and had a curve much longer than the opposite side, so that proper articulation between the teeth was prevented. On the right side, with the aid of rubber attachment (put on by a dentist), she could triturate slightly some forms of food. Dr. Richelot concluded to make an orthopedic resection of the lower jaw, and on the 25th of July last year he took away, by the aid of Liston's pincers and a perforator, about two centimetres of the bone at the level of the left bicuspid teeth, making a suture with silver wire and exact coaptation of the fragment, adapting the canine-tooth part with the molar portion. This operation was made by the mouth to prevent any exterior cicatrix, but, owing to the insubordination of the patient and the hysterical attacks she was subject to, bony reunion did not take place, and she left the hospital with a pseudarthrosis. Some two months later M. Routier received the girl at the Laennec Hospital, and undertook to cure the pseudarthrosis. At first he thought of using an ivory pin, but after reflection he concluded to use a piece of calf's bone taken from an animal lately killed. The operation was done the 13th of January, 1887, by an incision made on the inferior border of the inferior maxillary, destruction of the fibrous tissue, scraping of the fragments, and introduction of the portion of calf's bone, which secured perfect immobility. The reunion was made without much difficulty, and the bony consolidation followed. The patient was seen the 12th of March last, and was quite well, being even cured of her hysteria, and able to use her jaws quite well, although there is still a slight defect in the articulation of the teeth. M. Richelot added that he was disposed to try putting a slip of animal bone between the fragments in any such resection again, as he saw the perfect consolidation that was obtained after his failure by suture, perforation, and the usual method. The sensibility of the inferior dental nerve was not studied, but there is nothing abnormal at present, and the sensibility of the lips was perfect.

Prophylaxis of Transmissible Diseases.—Dr. Martin, in charge of Professor Graucher's service, makes some good remarks in regard to the above subject. Hygiene, he says, is of the utmost importance, and whether we believe or not in the importance of the *rôle* acted by the micro-organisms in the pathogeny of disease, hygiene can act all the same. It is enough to know that some sort of contagion exists, and that it is transmissible, in order to have good reason to prevent its transmission. Most of us know enough to make a prescription when we see a disease, but perhaps it would be better for us if our clients did as the Chinese, and pay as long as they are kept well. The means to be used to prevent propagation of many affections are three in number,—isolation, disinfection, and official information: there is a fourth, that is vaccination, that is good for a single disease, and there is hope that it may be extended to others. Isolation is certainly of very great importance, and not carried out as it should be. All persons apt to contract the disease must be rigidly kept away from the sick-room, particularly children; those who nurse the patient must be kept from the rest of the family, they must not eat or drink in the sick-room, and they must be careful to wash their hands with antiseptic solutions constantly. All curtains, carpets, and hangings must be taken away from the room, and the bed placed in the middle of it; the windows must be opened twice daily, covering the patient well. The time of isolation varies for different maladies, but in a general way twenty-five days will do for varicella and mumps, forty days for measles, scarlatina, and small-pox. In every case the patient must be well enough to have had a bath before seeing any one socially. *Disinfection* is the second means to be used, and Vallin understands by this the complete destruction of all the emanations from the patient, if they smell or not. The number of chemical products used should be small, and fire with steam be added. Corrosive sublimate in one-one-thousandth solution should be preferred, but it has a number of difficulties: one is, it is dear; another, it looks like water; again, it attacks domestic utensils, and cannot be used in strong solutions. So that carbolic acid is best for general use: owing to its characteristic odor, it will not be taken for anything else. All fæcal matters, urine, vomited matters, etc., should be disinfected at once, and the mixture then placed in a wooden box filled with earth, and not thrown into any stream or the usual closets. When any article used is not of much value, it should be destroyed by fire. Articles of value should be steamed under pressure. If this cannot be done, do not give the linen to the usual washwoman until it has been kept

for a considerable time in a solution of hot antiseptic fluid. Finally, it is the duty of the doctor to inform the city authorities; and while the law does not compel him to do so, except in cases of cholera, pest, or yellow fever, it is held by Professor Brouardel that in doing so we do not give up the rights of the *secret médical*, but we assist the city to use efficacious measures in stamping out the first signs of an epidemic. The law of silence only applies to venereal diseases or those that may be hereditary: so aid your patients by government or city prophylactic measures when you can. Dr. Martin closes by giving a table that sums up some very interesting facts of difference in mortality, births, etc., in countries like England, Germany, and France, where efforts are made to sterilize soil and localities by proper means leading to general and local salubrity and causing a diminution of epidemics. We give a few of the figures (the most striking):

	Births per 1000.	Deaths per 1000.	Excess of births over deaths.	Fecundity of women per 1000.
Germany.....	37.2	25.7	11.5	151
Italy.....	36.9	27.9	9	148
Switzerland....	35.9	25.7	10.2	114
England.....	34.2	19.9	14.3	130
France.....	24.9	22.6	2.2	99

So that while the mortality in France is not elevated, the excess of births over deaths is very small and the fecundity of the women low.

THOMAS LINN, M.D.

PARIS, August 1, 1887.

PROCEEDINGS OF SOCIETIES.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued from page 775.)

CASES OF SEWER-GAS POISONING. BY DR. HENRY HUN, OF ALBANY.

THE author reported in detail the histories of twenty-nine cases coming under his observation, in which various diseases appeared to have been due to the inhalation of sewer-gas. He thought it probable that the following diseases may result from sewer-gas poisoning: vomiting and purging, separately or combined, general debility, fever, sore throat of a diphtheritic type, neuralgia and perhaps also myelitis of the anterior horns. These conditions are frequently combined. Fever is frequently associated with the other symptoms. There is one group of symptoms which is almost always present, that is, loss of appetite, extreme prostration, and pain in the head. When this occurs as a chronic condition, we are justified in suspecting that the patient is suffering from sewer-gas poisoning.

Israel T. Dana, M.D., of Portland, Maine, reported a case of aneurism of the abdominal aorta cured by rest, restricted diet, and potassium iodide.

DISCUSSION ON HEMORRHAGIC INFARCTION.

At the evening session the discussion on hemorrhagic infarction was, by appointment, opened by Dr. W. W. Welch, of Baltimore.

The author first referred to the different theories which had been advanced to explain the occurrence of hemorrhagic infarctions. These are (1) changes in the walls of the artery obstructed; (2) the increased pressure with which the blood is sent in from the collateral circulation; and (3) a regurgitant flow of blood from the veins. Numerous experiments had been performed by the author, with the assistance of Dr. Mall, of Johns Hopkins University, to determine which of these theories was the correct one. Hemorrhagic infarctions were produced in the intestines of dogs, and the method of experimentation was given in detail. He presented as the result of his studies the following conclusions:

1. The blood which produces hemorrhagic infarctions comes chiefly, if not exclusively, from the collateral vessels.

2. Hemorrhagic infarctions in the intestine cannot take place merely from a reflux of blood from the veins.

3. The blood-pressure is very low in the region where hemorrhagic infarction occurs, in consequence of occlusion of the main artery.

4. A certain degree of force of the collateral circulation is required to produce a hemorrhagic infarction.

5. No positive proof exists that a change in the vascular walls is essential to the production of a hemorrhagic infarction.

6. The hemorrhage occurs by diapedesis.

7. Where hemorrhagic infarction has taken place the large and small veins are widely dilated with blood, and the arteries contain a smaller quantity of blood than normal. There is stasis in many of the veins and capillaries.

Dr. William Osler, of Philadelphia, the conferee, referred to the

CLINICAL ASPECTS OF HEMORRHAGIC INFARCTION.

Among other cases coming under his observation, he reported the following:

J. M., age 20, admitted to the Philadelphia Hospital October 10, 1886. He had never had syphilis, and was a healthy-looking man. He presented a clear history of typhoid fever with a sickness of six weeks two years previously. His present illness began with diarrhœa one week before admission. For two days he had attacks of bleeding at the nose. There was temperature of 102°, with pain in the abdomen. There was no cardiac mur-

mur, and examination of the lungs gave negative results. The splenic dulness was increased. By October 15 the temperature had reached 103°. There was almost constant delirium. There was some diarrhœa. Coldness of the feet appeared, and continued to increase in degree and extended up the leg. The legs became livid, and no pulsation could be detected in the femoral and popliteal vessels. The patient died on the 17th.

It was supposed that there was thrombosis of the iliac veins with gangrene of the legs, which is one of the rare sequences of typhoid fever. At the autopsy it was found that the lower portion of the abdominal aorta and also the two iliac arteries were plugged with thrombi. There was general peritonitis. The right kidney presented a red-brown infarction. There were no ulcerations in the bowel; no endocarditis. The lungs were normal. There was an infarction in the spleen. During life the blood was examined for microbes, but none were found. After death microbes were found in the spleen.

Hemorrhagic infarction of the liver, under ordinary circumstances, is impossible. A. B., a hard drinker, was admitted to the hospital September 27. His illness began in the previous June, with vomiting and swelling of the abdomen. The dropsy steadily increased. He died two days after admission. At the autopsy a large amount of fluid was found in the peritoneal cavity. There was nothing special found in the heart or lungs. The liver was remarkably cirrhotic. Through the right half of the right lobe there were scattered numerous reddish-brown areas. The walls of the portal vein were thickened, and a large brown thrombus occupied the upper portion of its trunk. The branches passing to the right lobe were filled with clots. The hepatic artery and vein were normal. In this case the hemorrhagic infarctions were in all probability due to the cirrhosis of the liver, which had caused more or less obstruction of the branches of the hepatic artery. The only other case of infarction of the liver which the speaker had been able to find was one reported by Recklinghausen.

In the intestine hemorrhagic infarction is met with in two forms: one involving the mucosa, the other affecting the entire gut. The former not infrequently ends in ulcerative necrosis. The latter form of hemorrhagic infarction is not common in man; in the horse it is frequently seen resulting from thrombi formed from verminous aneurisms of the mesenteric and its branches. This is a common cause of the severe and fatal colic so frequently seen in these animals. In conclusion, the speaker referred to the fact that in the lung it was not uncommon to have a vessel blocked without the production of an infarction. An occasional cause of thrombotic infarction is local disease of the pulmonary artery. It sometimes results from the endarteritis induced by beginning tubercular processes.

In the discussion on these papers Dr. Reginald H. Fitz, of Boston, reported a case which in his experience was quite unique. It was that of an elderly man with globular thrombi in the left ventricle. Emboli were transferred to the splenic artery, but at first were not sufficient to completely occlude the artery. The spleen became enlarged, and thrombi formed in the splenic veins, and from this point the thrombus extended into the superior mesenteric vein. As a consequence, hemorrhagic infarction occurred in the intestines.

Second Day.—Morning Session.

BERGEON'S METHOD OF TREATING PHTHISIS. BY DR. E. T. BRUEN, OF PHILADELPHIA.

With reference to the effect of the injections of sulphuretted hydrogen on the bacillus tuberculosis, Bergeon does not claim that their number has been reduced in any considerable proportion of cases. In the treatment of phthisis there are three main indications. The first is to secure some agent which will act upon the cause of the disease. Climate, diet, and hygiene serve to modify the predisposing causes; but if the bacillus be the real cause of the disease, we lack any agent which will destroy it. The second indication is to prevent the destruction of the tissues, for it is found that as the vitality is increased the number of organisms in the sputa is diminished. The third indication is to control special symptoms which present themselves. Since February last I have employed Bergeon's method of treatment in sixty-one cases. Forty-four of these cases have been benefited, but of these only three appeared to regain full health. Two of these were cases of incipient phthisis, with apparent consolidation of the apex of the right lung. In one of these cases the bacillus tuberculosis was not found, though five examinations were made. In the other case the bacillus was found. In these cases the apparent recovery has been associated with a decided increase in weight. He believes, however, that the disease is simply latent. The third case was one of bronchopneumonia. In all the other cases the lesions were more or less advanced, with the presence of cavities and profuse expectoration. In the fifteen cases in which a negative result was obtained, the treatment in some was followed by temporary benefit. The good results have consisted in lessening of the expectoration, diminution of the cough, lowering of the temperature, and suspending of the night-sweats. In most of the cases there was a diminution of from fifteen to twenty beats in the pulse, and a diminution of half a degree in the temperature during the administration of the gas. Even in those cases

which were benefited, and in which the temperature had been brought to normal, there would be, during the progress of the treatment, occasional outbreaks, with a return of the fever and the other symptoms. These, however, disappeared under a continuance of the injections. In order to determine the effect of the treatment on the bacilli, Dr. E. O. Shakespeare made a number of examinations during the progress of the cases. There has been no diminution in the number of the bacilli. It was, however, thought that in those cases where the treatment had been continued for some time, the reaction of the bacilli to the staining-fluid was less marked.

Two cases have died. In one of these an autopsy was made. This case had been under treatment for two months. The walls of the cavity were moderately smooth and firm, but there was no tendency to cicatrization. The results were of a decidedly negative character.

In most of the cases a solution made by the addition of five grains each of sodium sulphide and sodium chloride to a pint and a half of water was the solution employed. In some cases the strength of the solution had been gradually increased, but where no benefit had been obtained from the weak solution the stronger solution did not act with any better results. The quantity of gas employed at each injection has been about one gallon. If there is pain, the strength of the solution may be decreased or a smaller quantity of the gas may be given. At least an hour should be consumed in each administration of the gas. The patient should rest quietly in bed an additional half-hour until the gas has been absorbed. The admission of atmospheric air should be avoided.

In cases of diarrhœa his experience had been unfavorable, except where the gas was given in very small quantities. Chronic peritonitis is a contra-indication to the use of this plan of treatment. In about one case in every ten he had observed the reaction of sulphuretted hydrogen when a paper treated with acetate of lead had been applied to the mouth. This would indicate that a very small amount of the gas reaches the lung, and that the efficiency of the treatment does not depend upon the use of a strong solution. In no case have any injurious results been seen. In some cases where strong solutions were employed, the appetite and strength seemed to be impaired.

Bergeon's method is chiefly valuable in those cases attended with bronchial catarrh. He had had very little good effect in those cases where there was thickening of the lung without much catarrh. The speaker feared that the trouble and detail necessary to the successful application of this method, and the limitations of its power, would cause it to be set aside for other therapeutic measures.

(To be continued.)

BRITISH MEDICAL ASSOCIATION.

Fifty-Fifth Annual Meeting, at Dublin, August 2–5, 1887.

(Continued from page 779.)

T. GRAINGER STEWART, M.D., Professor of the Practice of Medicine in the University of Edinburgh, read, in the Section on the Practice of Medicine, a paper on

The Incidence of Albuminuria among the Sick.

Supplementing the inquiry as to the incidence of albumen in the presumably healthy, reported to the Royal Society of Edinburgh, the author had made a series of observations on various groups of patients to which he had access as to its occurrence among them. These patients consisted of one hundred and fifty consecutive private patients, one hundred and fifty consecutive cases from the wards of the Royal Infirmary, one hundred consecutive out-patients, fifty cases from the wards of the Hospital for Sick Children, forty cases from a ward devoted mainly to the treatment of cases suffering with alcoholism, fifty patients from the Fever Hospital, and twenty-five cases of women from the Maternity Hospital. In each case the urine was examined with nitric acid, picric acid, and Fehling's solution.

The author then presented a series of tables.

Table I. showed that, among the private patients, thirty-six, or twenty-four per cent., showed albumen; among the in-door patients of the Infirmary, nineteen per cent.; among the sick children, seven, or fourteen per cent.; among the fever cases, thirty-three, or sixty-six per cent.; among the maternity cases, eighteen, or seventy-two per cent.

Table II. dealt with the causes of the incidence of the albuminuria in the one hundred and fifty private cases. Thirteen out of the thirty-six were due to Bright's disease, one febrile, two vascular, three alimentary, two glycosuric, six functional, eight clearly accidental, one probably accidental.

Table III. dealt with the probable causes in the one hundred and fifty in-door Infirmary cases. Seventy-four cases of albuminuria were met with in the wards; twenty-six were from Bright's disease, five febrile cases, sixteen vascular, six alimentary, five nervous, three glycosuric, five accidental cases.

Table IV. dealt with the probable cause in one hundred out-door Infirmary cases. Of nineteen showing albuminuria, eight were from Bright's disease, three as probably Bright's disease, five vascular, one alimentary, one glycosuric, one probably accidental.

Table V. dealt with the cause in the fifty children. Bright's disease occurred in one case out of the seven, probably Bright's disease two, febrile three, nervous one.

Table VI. showed the results obtained as to

the occurrence of albuminuria among fifty fever cases in the Edinburgh Fever Hospital. Of these, eighteen, or thirty-six per cent., showed albumen with nitric acid, and thirty-three, or sixty-six per cent., with picric acid. Taking the thirty-six cases of scarlet fever separately, we find that thirteen, or 34.2 per cent., showed albumen with nitric acid, and twenty-three, or 60.53 per cent., with picric acid.

Table VII. showed the results in forty cases of alcoholism, either acute or chronic, treated in the Royal Infirmary. The specimens were obtained on the morning after their admission. One would naturally expect a large proportion of albuminurics among such patients, and no doubt the percentage is high. Still, we must remember that the class of patients of which this group is composed is most closely related to that of the soldiers,—that is, the conditions of life, such as heavy bodily labor, etc., which in soldiers conduce to make albuminuria frequent are also operative here. Still, the percentage of albuminurics is distinctly higher than it is among the soldiers, and indeed more closely corresponds with the statistics obtained among the in-door Infirmary patients. While, therefore, the albuminuria is probably mainly to be ascribed not to alcohol, but to the conditions of life, the alcohol must be credited with the increase over what we would expect in healthy individuals of the same class. This may be partly a direct effect of the alcohol, but doubtless the indirect influences as regards inferior diet, and bad hygienic conditions, which intemperance involves, are also factors in the case.

The next question is, How are we to explain the albuminuria in these various conditions? He did not attempt to do this until he had gone over the results of experiments made by different observers with the view of clearing up the question. Certain inferences seem to be warranted from the facts just stated:

1. That in health, so in disease, albuminuria is more common than is generally supposed. 2. That it is more common among patients of adult age than among children. 3. That cases of Bright's disease do not account for one-half the cases of albuminuria met with in practice. 4. That they account for more than any other individual cause. 5. That next to them rank the changes in the renal circulation due to cardiac and other maladies, and accidental cases due to the admixture of blood, pus, etc., with the urine. 6. That, so far as this series of observations shows, cyclical, dietetic, and simple persistent albuminurias are rare. 7. That while in Bright's disease, especially the waxy and cirrhotic forms, the quantity of albumen is at first so slight as to be only shown by picric acid, it yet is more abundant than in albuminuria due to other causes. 8. That in the digestive and nervous cases, and those due to high temperature, the quantity is often so small as only to be discovered by picric acid.

We now turn to note the results of his observations as to the occurrence of peptones in the series of cases examined.

Table VIII. shows incidence of peptonuria in the series of cases examined. It thus appears that only four out of one hundred and fifty patients showed this condition. These cases were (1) a case of cirrhotic Bright's disease with gout and dyspepsia, (2) a case of cirrhotic Bright with heart-disease, (3) a case of rupture of the kidney, and (4) a case of acute rheumatism. The urines were all albuminous. Of one hundred and fifty in-door patients at the Infirmary, sixteen gave the reaction. These were a case of dyspepsia, a case of malignant disease of the liver, stomach, lungs, etc., a case of heart-disease, two of phthisis (one of them syphilitic), a case of pleurisy, nine cases of Bright's disease, and a case of acute rheumatism. Except in the case of dyspepsia, all the urines contained albumen as well.

In the Obstetrical Section, John W. Byers, M.D., of Belfast, read a communication entitled

THE PREVENTION OF PUERPERAL FEVER IN PRIVATE PRACTICE.

The paper gave some statistics showing the great mortality from puerperal fever; but the writer said it was impossible to take measures for its prevention until we had clear ideas as to its causation. After he had discussed various views, he gave his reasons for believing that it was blood-poisoning analogous to septicæmia met with in surgical practice. Taking this view, he believed there were three principal sources by which the poison might be introduced into the system of a lying-in woman:

1st. Sewer-gas, as in unhealthy homes.
2d. The nurse.
3d. The accoucheur.

Under the first head he recommended the inspection of a house before the confinement took place, to see if it was in a proper sanitary condition. He gave rules for the guidance of the practitioner and nurse. He advised the strictest cleanliness, thorough washing of the hands in an antiseptic solution (one to one thousand) of perchloride of mercury, few examinations, a proper management of the third stage, the keeping of the patient on her back for a time after confinement, and the use of antiseptic douches.

He drew attention to the cases in which a decomposing blood-clot or placenta might be the source of the disease, but believed that even in these cases the decomposing mass in the uterus only acted as a nidus in which the poison from without found suitable soil.

He discussed the question of how a physician should act with reference to obstetric practice if he came across cases of scarlatina

or foul surgical wounds, and said he believed by bathing, changing the clothes, and strict antiseptic washings he need not fear to attend a confinement. He said if those who attended women in labor would act as if each one were likely to develop septicæmia, they would take thorough antiseptic precautions, and thus such cases would be reduced to a minimum.

The whole essence of the prevention of puerperal fever was—

1st. To prevent the poison entering the system.

2d. To destroy the poison, if it should get into the genital tract of a patient, before it entered her tissues and blood.

Dr. Robert Barnes read a paper on

THE CAUSES, INTERNAL AND EXTERNAL, OF PUERPERAL FEVER.

A clear understanding of the nature and causes of puerperal fever is the natural antecedent of a rational system of prevention. What is puerperal fever? What are its factors and constituents?

There is not one cause, but a plexus of causes. Failure to comprehend this truth is especially conspicuous in the German works. By a short and arbitrary process of synthesis this school formulated the dogma that puerperal fever is puerperal septicæmia, the result of septic infection from the genital canal, thus overlooking important constituent factors. Starting from the state of gestation, we find it especially marked by exalted nervous and vascular tension. An acute process of building up is going on. Parturition puts to the test every tissue, every function. We have three combined sources of altered blood: first, that derived from gestation; second, that arising during labor; third, that arising from the disintegration of the superfluous tissues built up during gestation. Labor completed, a process is started the very reverse of that which prevails in the gravida. The high vascular tension subsides; the tide turns; the blood is invaded by waste stuff which has to be cast out of the body. This is done mainly by the excreting glands: the liver, kidneys, skin, intestines, lungs, are all called upon for active work. They must discharge the waste stuff as fast as it is received into the circulation. If this waste stuff be not duly excreted, it accumulates and forms foyers of poison. Cases of thrombosis and phlegmasia dolens are mainly the expression of the loss of balance of disintegration and elimination.

This is the simplest, the fundamental form of puerperal fever; but it is the compound of three forms of altered blood: 1, the blood of the gravida; 2, the blood of the parturient; 3, the blood of the puerpera. This is purely autogenetic. I call it endosepsis. The conditions arise entirely within the patient's system.

Another group of symptoms which disturb the orderly course of the puerperal state are influences which retard the secretions and excretions, as chills, malarious conditions, errors of diet (among which insufficient diet is one), bad hygienic surroundings, and emotions.

Meteorology controls these secretions largely, and I believe has no little effect on the frequency of puerperal fever. I show here a number of charts. The first gives, according to the Royal Meteorological Transactions, the general temperature and rainfall for thirty years,—1844 to 1874; the second shows the deaths from scarlatina, fevers, erysipelas, and puerperal fevers for the same period; the third shows the total births and deaths for the same period. The second series I have constructed on the same plan. It consists of the history for ten years,—1875 to 1884. The months and weeks of each year are cast together, so that January consists of thirty weeks, corresponding. In the second series we get the curve for the following ten years. The separation of ten years can be compared with the preceding thirty years. The general similarity of the curves is remarkable. It affords strong evidence of the universal prevalence of the causes. The tables exhibited showed the relation of the seasons and atmospheric conditions to fevers, puerperal and others, and illustrated a law which has been widely recognized, that zymotics are most fatal in the winter. This I believe is true. The damp from the cellars, charged it may be with foul water, but noxious in any case, is sure to be sucked up into the house, and seeks by preference the warmest spot. This is the lying-in room, the heat acting as a relative vacuum in the highly-heated and poorly-ventilated room. This source of danger is distinct from the ordinary drains or sewerage of the house: either may act alone, or they may act together, intensifying the danger.

This damp foul air, drawn into the lying-in room, may be contaminated with specific poisons, as of typhoid, scarlatina, or of erysipelas; but the contamination is not necessary to work mischief in the puerpera. This evil, that the lying-in room is chiefly supplied by air from the lower regions in winter, need hardly be felt in summer, as fresh air is brought directly from the outside. Pressure then works against the up-current; pure air is gained, foul air is repelled. [Here the author showed a model house to prevent this suction of foul air.] During the past winter, an unusually inclement one, I have been called to attend an unusual number of cases of chills and fever. I rarely failed to find sufficient cause for the trouble in the sanitation. I would enforce emphatically the old rule to move the patient to another room, preferably the drawing-room, which is generally the healthiest, most airy in the house.

Sewer-gas, if not carrying zymotic germs, may cause fever. The poison, however, must be kept up. Hence the advantage gained from moving the patient out of her surrounding influences.

As to decomposing matter in the genital tract, we should first close the gates against the entry of the enemy by securing firm contraction of the uterus, and prevent the suction-action of the abdomen. The next step is to give ecbolics, as quinia, cinnamon, nux vomica, ergot, and digitalis. Some combination of these medicines should be given in every labor. We should then eject the enemy and prevent the gathering force by washing out the uterus. Uterine irrigation is especially useful in the autogenetic forms in which noxious matter is taken up from the genital tract. It is not frequently necessary in the heterogenetic or zymotic forms.

The women of the laboring classes go through child-bearing more safely than their pampered and delicate sisters. It is because they are not subjected to and enfeebled by excessive cultivation of the emotional and intellectual elements. The daughter of luxury never knows a day's labor till she is taken in labor, while the woman of the working-classes labors every day.

Lactation is evidence of glandular capacity; failure to produce milk, presumptive evidence of glandular incapacity. Fever prevents or diminishes secretion. In such cases, at least, failure to secrete milk is a primary, not a secondary condition. Fever declares itself because the glands cannot do their duty.

From what precedes, it follows that to insure the fullest security to the puerpera, to put her in the best position to go through the transition from the puerperal to the ordinary state, we must do what we can to keep every organ, including the glandular system, in good working order, and to guard against all known agencies which may disturb the healthy action of the organs.

The relations of meteorology to puerperal fever is a point to which I wish to call especial attention. We see by the tables that puerperal fever, like other fevers, prevails most fatally in winter. To what extent can we control the pernicious influences of winter weather? Domestic meteorology is greatly under our control. We must inquire what are the external conditions which favor correction. The excretory force of the lungs is increased in value in the puerpera. Under ordinary conditions in the non-pregnant they gave off watery vapor, carbonic acid, sometimes ammonia and a minute quantity of organic matter. It is certain the capacity of the lungs increases after labor, so it is probable the quantity of carbonic acid exhaled is increased, and certain the exhalations of organic matter increase. The "gravis odor puerperii" is partly due to this increase. In some cases, though verging closely on antisepsis, the lochial discharge is absorbed. In these I have noted a sallow aspect and a degree of febridity, and I have taken this as an indication for irrigating the cavity of the uterus.

To get rid of the excess of aqueous vapors of carbonic acid and organic excreta by the lungs and skin, a constant supply of pure air is required. It must be dry and comparatively rare. There are two principal modes by which gaseous matter including germs or bacteria is carried: 1, by diffusions; 2, by currents of air. Active diffusions are especially valuable so long as they bring nothing noxious to the patient; but if foul matter comes with the air it will tell against the case. Hence the great importance of a supply of pure air and the removal of all impediments to free circulation. I am disposed to believe the most injurious of all meteorological conditions is damp in the form of saturated air, fog and mist. Wind, rain, and sun are the great purifiers of the atmosphere. Movement of the air promotes diffusion, sunshine works chemical changes, and the rain scours or washes away impurities. All of this, of course, is familiar knowledge; but it is not superfluous to ask if it is fairly applied to the regulation of the sick-room. Let us consider how far we may bring the meteorology of the bedroom to the conditions of healthy external meteorology. 1. Let the lying-in chamber face the south. To combat external damp a fire is best in an open fireplace; the open grate serves as a ventilator to carry off impurities. Among the abominations of self-styled sanitary engineers, I feel called upon to denounce heating by hot-water pipes. They are too often effective means for the culture and diffusion of noxious germs. It is possible also to wash the air by air admitted by a Dobin's tube, by a shower of water falling into the tubes.

The modification of the air by chemical agents, with the mechanical addition of vapors and gases possessing medical virtues.

In the early morning hours, between two and four o'clock, is the time when the wind is the lowest and the meteorological conditions the worst. At this time the ventilation of the room should be attended to with greater care than usual.

All precautions resolve themselves into one word,—cleanliness. All antiseptic precautions are but a part of the general scheme.

The meteorological conditions are of primary importance, though far from underestimating other causes.

Whilst protecting the citadel from the foe without, we should take care that mutiny does not break out within.

(To be continued.)

THE MANAGERS OF THE PENNSYLVANIA HOSPITAL gave a reception on August 31 to visiting physicians on their way to attend the International Medical Congress.

NEW REMEDIES AND CLINICAL NOTES.

Immunity by Injection of Chemical Bodies.—Dr. L. C. Wooldridge recently communicated to the Royal Society a method by which he had been able to protect rabbits from anthrax, which is of considerable interest in connection with the general question of the nature of protection in this and other diseases depending on micro-organisms. The method consists in cultivating the anthrax-bacillus in an alkaline solution of a peculiar proteid body which can be obtained from the testis and thymus gland. The growth is not abundant, and after two days at 37° C. it is removed from the culture-fluid by filtration. A small quantity of filtered liquid is injected into the circulation of a rabbit, and the animal can then withstand the inoculation of extremely virulent anthrax blood. The bacillus itself grown in this peculiar culture-fluid has no protective influence: it either kills or it has no effect. The result is extremely curious, for hitherto protection against zymotic disease has been effected by the communication to the animal of a modified form of the disease against which protection is sought. In Dr. Wooldridge's experiments the protection must be produced by some chemical body the product of the activity of the bacillus. The observation belongs to a new order of facts, and appears to fall in with M. Pasteur's theory as to the method in which immunity to hydrophobia is produced by inoculation of the spinal cord of rabid rabbits. Both find some support in Professor Cash's experiments with perchloride of mercury, in which it was shown that after animals had taken a sufficient quantity of the drug they were no longer liable to anthrax.

Corrosive Sublimate in Intra-Uterine Irrigation.—Dr. Braun, from recent observations, has arrived at the following conclusions concerning the use of corrosive sublimate in irrigation of the uterus and vagina: 1. Vaginal or intra-uterine irrigation is frequently followed by absorption of the injected liquid. 2. When this occurs, mercury is quickly detected in the fæces. 3. If the return of the injected liquid be in any way prevented, absorption occurs rapidly. 4. The one in one thousand solution of sublimate should be used only in serious cases, such as tympanites of the uterus, putrefaction of the fœtus in the uterine cavity, or septic puerperal fever. The injection should not occupy more than a minute in the performance, and should be followed by a copious injection of distilled water. 4. The four in one thousand solution should be injected only in cases of expulsion of a macerated fœtus or in endometritis consecutive to the expulsion of the fœtus in premature delivery. 6. This solution may be of service in puerperal endometritis accompanied by a fetid vaginal discharge; in these cases irrigation should be followed by an injection of pure water. 7. Irrigation should be performed only by a medical man. 8. Irrigation with corrosive sublimate should seldom be employed in women suffering from extensive wounds of the vulva, in those who have been taking mercurial preparations, in cases of atony of the uterus, in anæmic women, or in patients suffering with disease of the kidneys.

Acute Chorea treated with Physostigmine.—By administering the remedy subcutaneously, Riess claims that the duration of the disease is shortened to about a fortnight, and that forty out of forty-four cases were treated successfully with physostigmine, the remaining four being of the very severe form.

MISCELLANY.

The American Dermatological Association held its eleventh annual meeting in Baltimore, August 31 and September 1 and 2, at the hall of the Medical and Chirurgical Society of the State of Maryland. Abstracts of the principal papers will be given hereafter.

Cooper Hospital of Camden.—The staff of the new institution consists of—Surgeons, Drs. Dowling Benjamin, O. B. Gross, J. F, Walsh, and E. L. B. Godfrey; Physicians, Drs. J. McCray, D. P. Pancoast, W. A. Davis, and H. Genet Taylor; Resident Physician, Dr. Harry Jarrett; Pathologist, Dr. Joseph H. Wills.

NOTES AND QUERIES.

OBITUARY.

Nathaniel Archer Randolph, M.D., Professor of Hygiene in the University of Pennsylvania, was accidentally drowned while bathing, August 21, at Longport, near Atlantic City, New Jersey. It is believed that death was really due to a heart-affection from which he had been suffering for some years, and that sudden cardiac failure resulted from violent muscular efforts while struggling in the water to escape from being carried out by the undertow. Dr. Randolph was born at Chadd's Ford, in this State, November 7, 1858, and was a graduate of Cornell University and the Medical Department of the University of Pennsylvania. He was a member of the College of Physicians of Philadelphia and of other societies, and had been for a short time one of the editors of the *Medical and Surgical Reporter*. He especially interested himself in the study of nutrition, and had contributed several papers on the relative value of foods.

E. W. Germer, M.D., ex-President of the State Board of Health, died at Erie, August 22, at the age of fifty-six. He was born in Altsbrisach, Baden, Germany, and graduated in medicine at the Vienna University in 1859. During the Baden revolution he was among the insurgents, and was severely wounded. Coming to Erie, he engaged in the practice of medicine. When the smallpox scourge developed in Erie, he was nurse, physician, undertaker, and clergyman. He was appointed on the State Board of Health by Governor Pattison, and was President of that body last year. He was a member of the National Board of Health, and at the last meeting of the State Board was elected to represent Pennsylvania at the International Sanitary Convention at Berlin next month. While on the State Board, he was on the committee which investigated and located the cause of fever-contagions at Plymouth and Pittsburg. It was through his efforts that the grave of General Anthony Wayne was finally located.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 31, 1887, *TO AUGUST* 27, 1887.

COLONEL CHARLES SUTHERLAND, SURGEON.—Leave of absence extended one month. S. O. 174, A. G. O., July 29, 1887.

MAJOR J. C. MCKEE, SURGEON.—Ordered for duty at Watertown Arsenal, Massachusetts. S. O. 181, A. G. O., August 6, 1887.

MAJOR B. E. FRYER, SURGEON.—Relieved from further duty at Fort Lowell, Arizona. S. O. 176, A. G. O., August 1, 1887.

MAJOR HARVEY E. BROWN, SURGEON.—Relieved from duty in Department of Missouri, and ordered to Jackson Barracks, Louisiana, for duty at that post. S. O. 174, A. G. O., July 29, 1887.

MAJOR H. E. BROWN, SURGEON.—Sick-leave extended to August 6, 1887, on account of sickness. S. O. 184, A. G. O., August 10, 1887.

MAJOR P. J. A. CLEARY, SURGEON.—Ordered to Fort McDowell, Arizona Territory, instead of Fort Assiniboine, Montana Territory. S. O. 180, A. G. O., August 5, 1887.

CAPTAIN JOHN M. DICKSON, ASSISTANT-SURGEON.—Died August 8, 1887. (Station, Fort Mason, California.)

CAPTAIN JOHN DE B. W. GARDINER, ASSISTANT-SURGEON.—Granted leave of absence for one year, on surgeon's certificate of disability. S. O. 177, A. G. O., August 2, 1887.

CAPTAIN J. C. MERRILL, ASSISTANT-SURGEON.—Ordered from Fort Klamath, Oregon, to Watervliet Arsenal, New York. S. O. 181, A. G. O., August 6, 1887.

FIRST-LIEUTENANT WILLIAM E. HOPKINS, ASSISTANT-SURGEON.—Ordered from Angel Island, California, to Fort Mason, California. S. O. 184, A. G. O., August 10, 1887.

FIRST-LIEUTENANT C. N. B. MACAULEY, ASSISTANT-SURGEON.—Promoted to be Assistant-Surgeon with the rank of Captain, by operation of law, August 10, 1887.

FIRST-LIEUTENANT J. E. PILCHER, ASSISTANT-SURGEON.—Ordered from Fort Monroe, Virginia, to Fort Wood, New York Harbor. S. O. 180, A. G. O., August 5, 1887.

FIRST-LIEUTENANT C. L. G. ANDERSON, ASSISTANT-SURGEON. (Station, Whipple Barracks, Arizona Territory.)—Ordered to Fort McDowell, Arizona Territory. S. O. 81, Department of Arizona, August 3, 1887.

FIRST-LIEUTENANT WILLIAM N. SUTER, ASSISTANT-SURGEON.—Ordered to return to Washington Barracks, D. C., on the breaking up of the camp at Creedmoor, New York. S. O. 166, Division of the Atlantic, August 10, 1887.

COLONEL J. H. BAXTER, CHIEF MEDICAL PURVEYOR.—Ordered to proceed from Washington, D.C., to New York City, on public business, and on completion thereof to return to this city. Par. 5, S. O. 187, A. G. O., August 13, 1887.

LIEUTENANT-COLONEL JOSEPH C. BAILY, ASSISTANT MEDICAL PURVEYOR. — Granted leave of absence for one month. Par. 10, S. O. 191, A. G. O., August 18, 1887.

MAJOR W. D. WOLVERTON, SURGEON (Washington Barracks, D.C.).—Granted leave of absence for twenty days. Par. 3, S. O. 171, Division of the Atlantic, August 16, 1887.

MAJOR W. S. TREMAINE, SURGEON.—Found incapacitated for active service by an Army Retiring Board, and extension of leave of absence, on account of sickness, still further extended until further orders. Par. 9, S. O. 192, A. G. O., August 19, 1887.

MAJOR JOHN H. BARTHOLF, SURGEON.—Leave of absence extended one month. Par. 7, S. O. 196, A. G. O., August 24, 1887.

CAPTAIN JULIUS H. PATZKI, ASSISTANT-SURGEON. — Granted leave of absence for one month. Par. 15, S. O. 195, A. G. O., August 23, 1887.

CAPTAIN WASHINGTON MATTHEWS, ASSISTANT-SURGEON.—Ordered to proceed to Phœnix, Arizona Territory, on public business, and on completion thereof to return to his proper station, Surgeon-General's Office. Par. 21 S. O. 195, A. G. O., Aug. 23, 1887.

CAPTAIN CHARLES B. BYRNE, ASSISTANT-SURGEON (Washington Barracks, D. C.).—Granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O. 171, Division of the Atlantic, August 16, 1887.

CAPTAIN BLAIR D. TAYLOR, ASSISTANT-SURGEON.—Granted leave of absence for twenty days, to take effect on or about August 31, 1887. Par. 7, S. O. 193, A. G. O., August 20, 1887.

CAPTAIN GEORGE F. WILSON, ASSISTANT-SURGEON. — Granted leave of absence for fifteen days. S. O. 78, Department of Dakota, August 8, 1887.

FIRST-LIEUTENANT WILLIAM D. DIETZ, ASSISTANT-SURGEON.—Granted leave of absence for two months, with permission to apply for an extension of one month. Par. 7, S. O. 189, A. G. O., August 16, 1887.

FIRST-LIEUTENANT W. D. MCCAW, ASSISTANT-SURGEON.—Relieved from temporary duty at Fort Riley, Kansas, and ordered to his proper station, Fort Leavenworth, Kansas. Par. 3, S. O. 84, Department of Missouri, August 15, 1887.

FIRST-LIEUTENANT E. L. SWIFT, ASSISTANT-SURGEON.—Ordered to report in person to the commanding general, Division of the Pacific, for duty with troops at Round Valley Indian Reservation. Par. 20, S. O. 195, August 23, 1887.

CAPTAIN HENRY JOHNSON, MEDICAL STOREKEEPER.—Ordered, in addition to his present duties, to take charge of the office and perform the duties of Acting Assistant-Medical-Purveyor in New York City, during the temporary absence on leave of Lieutenant-Colonel Joseph C. Baily, Assistant-Medical-Purveyor. Par. 11, S. O. 191, A. G. O., August 18, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING AUGUST 20, 1887.

MEDICAL-INSPECTOR S. ROBINSON.—Placed on Retired List.

PASSED ASSISTANT-SURGEON J. E. GARDNER.—Detached from Naval Hospital, Norfolk, Virginia, and ordered to the Fish Commission Steamer "Albatross."

ASSISTANT-SURGEON WILLIAM MARTIN.—Ordered to Naval Hospital, Norfolk, Virginia.

SURGEON W. K. VAN REYPEN.—Appointed Medical Inspector from August 16, 1887.

PASSED ASSISTANT-SURGEON M. H. SIMONS.—Appointed Surgeon from August 16, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE THREE WEEKS ENDING AUGUST 27, 1887.

LONG, W. H., SURGEON.—Leave extended six days, on account of sickness, August 13, 1887.

FESSENDEN, C. S. D., SURGEON.—Leave extended thirty days, on account of sickness, August 19, 1887.

GODFREY, JOHN, SURGEON.—Granted leave of absence for thirty days, August 17, 1887.

GLENNAN, A. H., PASSED ASSISTANT-SURGEON.—Granted leave of absence for thirty days, August 18, 1887.

MCINTOSH, W. P., ASSISTANT-SURGEON.—Granted leave of absence for twenty-five days, on account of sickness, August 17, 1887.

BAILHACHE, P. H., SURGEON.—Granted leave of absence for thirty days, August 26, 1887.

CARTER, H. R., PASSED ASSISTANT-SURGEON.—Granted leave of absence for twenty-seven days, August 25, 1887.

YEMANS, H. W., PASSED ASSISTANT-SURGEON.—Resignation accepted, to take effect September 30, 1887, and leave of absence extended to that date, August 24, 1887.

NORMAN, SEATON.—Granted leave of absence for six days, on account of sickness, August 27, 1887.

PHILADELPHIA, SEPTEMBER 17, 1887.

ORIGINAL ADDRESS.

ON THE COLLECTIVE INVESTIGATION OF DISEASE.

From the Inaugural Address of the President of the Ninth International Medical Congress,

PROF. NATHAN S. DAVIS, M.D., LL.D.,
Of Chicago.

[At the opening of his address the orator paid a warm tribute to the memory of one who should have filled the place now occupied by the speaker, Professor Austin Flint, M.D., LL.D., of New York, whose untimely death was an irreparable loss to the whole profession of medicine. Dr. Davis then proceeded to speak of the benefits of medical organization, and then took up the subject of the Collective Investigation of Disease, as follows:]

EVERY experienced and intelligent practitioner of the healing art is familiar with the fact that all acute general diseases are influenced in their prevalence and severity by seasons of the year, topographical and other conditions of the earth, meteorological conditions of the atmosphere, and the social condition and habits of the people themselves. The most familiar endemics vary annually in the same localities; while the great epidemics that have for ages broken over the comparatively limited boundaries of their habitats only at intervals of years, and extended their ravages from country to country and receded again to the source from which they apparently originated, differ widely in the different periods of their prevalence. But in studying the essential causes of any one of these general diseases and the laws and conditions under which such causes operate, he soon finds certain factors, essential for the solution of his problems, wanting.

For instance, if he wishes to identify the date of the first attack of epidemic cholera in a given locality, and the character of bowel affections immediately preceding, the ordinary statistics of mortality will give him only the date of death, which may have been from one to seven days later, or it may have been preceded by one or more cases that ended in recovery. If he is anxious to determine the reason why the disease, on entering one community, develops with such rapidity that in a few days its victims are found in every grade of the population and in almost every street, while in another it develops slowly, adhering persistently to particular classes or localities, he may find, in the ordinary meteorological records, the thermometric, barometric, and hygrometric conditions of the atmosphere, with the direction and the velocity of the winds, but he finds nothing regarding those important though variable elements known as ozone and hydrogen peroxide, active oxidizers; or those nitrogenous products called free and albuminoid ammonia. Neither do the sanitary records give the desired information concerning the composition and impregnations of the soil, or of the organic and inorganic emanations that may arise therefrom.

An adequate knowledge of these absent factors relating to the condition of the earth, air, and water over districts large enough to embrace localities subject to invasions of the epidemics and others known to be exempt through a sufficient length of time to cover several periods of prevalence and periods of absence alike, is essential for enabling us to comprehend the causes that make one district amenable to the prevalence of a disease and another not, as well as the marked differences in the severity and mode of progress of the same disease at different periods in the same localities and same classes of the people. The same additional knowledge would also furnish the basis for further sanitary measures of the greatest practical value.

And yet it must be obvious that the cooperation of numbers of medical men directly engaged in the field of general practice with others possessed of more practical facilities for chemical and microscopical research is necessary for successfully prosecuting such coincident and continuous investigations as would be likely to secure the desired results. Only well-trained general practitioners in every locality chosen for observation could observe and record the date of the initial symptoms of acute general diseases coming under their notice, and at stated intervals collate and report them to a central committee. The daily observations concerning the presence and relative proportion of active oxidizers and of nitrogenous organic elements in the atmosphere and the water would require the selection of one or two experts in chemical and microscopical re-

search for each locality, all making their observations coincidently in time and by uniform methods.

There are included in the organized medical associations of each country the men and materials necessary for prosecuting every well-defined line of inquiry; and these associations, by their stated meetings and their facilities for intercommunication and concert of action, present the entire machinery needed, and are only waiting for well-planned and systematic use.

The tendency to make the permanent medical organizations available for prosecuting work in the directions I have indicated has already been manifested to a limited extent, as may be seen in the formation of the Collective Investigation Committee of the British Medical Association and of the International Collective Investigation Committee, organized during the sitting of the Eighth International Congress at Copenhagen.

An earlier movement more fully of the character I have been endeavoring to explain was made by the American Medical Association in 1875, when a standing committee was appointed to establish in a sufficient number of localities regular coincident daily observations and records concerning all appreciable meteorological conditions, including organic and inorganic elements found in the atmosphere, and the date of beginning of acute general diseases, and report the results at each annual meeting of the Association. The Committee made reports embodying facts of interest and permanent value in 1877, in 1879, in 1881, in 1882, and in 1883.* The latter report contains, among other items, a complete tabulated statement of the free and albuminoid ammonia in the atmosphere for every day in the year ending August 31, 1883, as determined for the Committee by Professor J. H. Long in connection with the laboratory of the Chicago Medical College. The Committee is still prosecuting its work with material in hand for a still more important report at an early day. The greatest difficulty encountered has been to enlist a sufficient number of active practitioners in each locality who would faithfully record the desired clinical facts and report the results to the Committee. But this and all other obstacles can be overcome by persevering and well-directed work.

I trust no apology is needed for having embraced this occasion to attract your attention to the very important question how to make all our medical associations more useful in promoting the science of medicine by more complete methods of investigation, especially in directions where the coincident action of several persons in different places is essential for success.

I fully appreciate the great benefit resulting from the simple mingling of large numbers of medical men in social contact, where each is made to hear constantly, whether on the street, in the hotel, or in the assembly-room, new suggestions, new modes of expression, and to observe the physical and mental effects of the various habits and customs of the different peoples, until each one leaves the general gathering with largely increased mental activity and resources, as was so happily expressed by Sir James Paget in his address to the Congress of 1881, in London. And I appreciate in a still higher degree the benefits derived from the preparation and reading of papers by individuals and the discussion of important questions in all our assemblies.

But, for reasons I have already briefly stated, I hope to see added in every permanent general medical society two standing committees: to one should be referred for critical examination every communication claiming to embody a new discovery in either the science or art of medicine, and the other should be charged with the work of devising such lines of investigation for developing additional knowledge as require the co-operation of different individuals, and perhaps societies, and of superintending their efficient execution until crowned with success.

If ten or twenty per cent. of the money paid for initiation and membership dues by the members of each society were appropriated and judiciously expended in the prosecution of such systematic and continuous investigations from year to year, it would accomplish more in advancing medical science directly, and indirectly in benefiting the human race, than ten times that amount would accomplish if expended in any other direction.

* Trans. of the Am. Med. Assoc., vol. xxvi. p. 125; xxviii. p. 153; xxx. pp. 38, 147; xxxii. p. 481; xxxiii. p. 43; Jour. of the Am. Med. Assoc., vol. ii. pp. 85, 169.

For it must be remembered that when money is expended for material objects, even for food, clothing, or medicine, such materials feed, clothe, or relieve but one set of needy individuals, and are themselves consumed; but the expenditure of money and time in such a way as to develop a new fact capable of practical application either in preventing, alleviating, or curing disease, that *fact* does not, like the food or medicine, perish with the using, but it becomes literally imperishable. Neither are its benefits limited to one set of individuals, but it is transmitted with the speed of the lightning over the land and under the sea to every civilized people; and whatever benefits it is capable of conferring are as capable of being applied to a million as to one, and of being repeated with increasing efficiency from generation to generation.

It has been tersely and correctly stated that associated action constitutes the characteristic and predominating power of the age in which we live. It is by associated action that education in its broadest sense, religion, and civilization have been more rapidly diffused among the masses of mankind during the present century than during any other period of the world's history. It is by the association of capital, wielded by the associated intellects of the nineteenth century, that highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant nations have become neighbors, and the inhabitants hold daily converse with each other from opposite sides of the globe. Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes.

I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men in rendering available these grand material achievements of the age for cultivating fraternal relations, developing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration.

This is the ninth grand International Congress in regular series within little more than two decades, and let us hope that all its work will not only be done in harmony and good order, but with such results as will add much to the aggregate of human happiness through all the coming generations.

Without trespassing further on your patience, I must ask your forbearance with my own imperfect qualifications and your generous assistance in the discharge of the responsible duties you have devolved upon me.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF PULMONARY PHTHISIS.

Read before the Medical Society of the State of Pennsylvania, at its Thirty-Eighth Annual Meeting, held at Bedford, Pennsylvania, June 30, 1887,

BY WILLIAM F. WAUGH, A.M., M.D.,
Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College of Philadelphia.

THE present year has been prolific in remedies for the cure of phthisis. The discovery of Koch, revolutionizing our ideas of etiology, has been followed by an endeavor to readjust therapeutics in order to make it harmonize with the new pathology. As might have been expected, the first attempts were crude and fanciful, based on mistaken notions of the true import of the new teaching, showing that the profession had not yet had time to fully mature their ideas so as to make legitimate deductions therefrom. If there be one fact which above all others is taught by history, it is the exceeding slowness of the human mind in grasping a truth and pushing it to its legitimate deductions. We may rest assured that every possible wrong road will be tried before the right one is hit upon.

The most recent of all the new remedies proposed is the hypodermic use of calcium phosphite, the object being to favor the calcification of the tuberculous masses. As the lacto-phosphate of lime is taken up in large quantities from the alimentary canal, there seems little reason for using it hypodermically. No proof had yet been ad-

duced that the ingestion of lime salts hastens calcification. The true value of these agents is in increasing the strength of the cell-wall, preventing hemorrhage, sweating, and other sources of danger and waste, rather than in causing calcification of tubercular deposits.

Two French observers have been testing the power of various agents to delay the progress of tuberculosis artificially produced. Of all the drugs tried, they found none which gave as good results as tannic acid. Rabbits to which this remedy was administered resisted the effects of the disease much longer than animals to whom the tannin had not been given.

The interference with the digestion which tannin causes, the short time for which it can be administered without injury, and its objectionable local effects, render this drug unsuitable for such a chronic disease as phthisis. Still, it is a step in the right direction, aiming to increase the resisting power of the tissues rather than to destroy the bacilli by a germicidal action.

The treatment by hypodermic injections of corrosive sublimate is only mentioned to express the wonder how any physician can be found who is familiar with germicides, and yet believes that the one-fiftieth of a grain of corrosive sublimate injected under the skin at a distance from the lungs can have any influence upon microbes in these organs.

The Russians have still more recently advised the use of aniline. They claim that very dilute solutions of aniline are destructive to the tubercle-bacillus, and that the body can be saturated with aniline to the requisite degree. In this connection, it is well to remember that antifebrine, which has proved remarkably effectual in combating the fever of phthisis, is transformed into aniline in the human body, and if given continuously for a short period imparts a blue coloration to the body, which, however, is but temporary. This remedy deserves a careful trial. The highly poisonous nature of aniline must not be forgotten, and the effects on the general health of saturating the whole system to the extent necessary to destroy the disease-germs could hardly fail to be injurious. Whether the disease or the remedy be the worse remains to be shown.

For several months the French journals have teemed with papers upon the hypodermic use of various remedies suspended in liquid vaseline. Of all the agents tested, those which have given the best results are iodine and carbolic acid. Of the latter, from fifteen to twenty-three grains are injected daily. This enormous dose is said to be borne without inconvenience. The liquid vaseline used as a vehicle is obtained from Baku. It is said that the American petroleum contains no such body, but this I am assured is a mistake. The Russian vaseline, when perfectly pure, has proved the best vehicle yet introduced for hypodermic use; the French physicians having injected over a pound of it beneath the skin of a horse without the least irritation ensuing. As to the value of this method, it appears unlikely that the introduction of these remedies at a distance from the seat of the disease would prove as effective as when applied directly by the atomizer or by intra-pulmonary injection.

It seems singular that this method, which is so popular in France, attracts scarcely a passing notice here.

The germicidal methods are intended for tubercular cases alone, and would be obviously out of place in chronic pneumonia, fibroid lung, etc., which constitute the larger proportion of cases of consumption. The iodine and phenol injections have been found very useful in chronic bronchitis, but in true tuberculosis it is admitted that notwithstanding the general improvement which follows their use the bacilli continue to be found in the sputa.

One of the first attempts to base the treatment of phthisis on the bacillar pathology was that of Cantani. Claiming that there exists an antagonism between decomposition-germs and tubercle-bacilli, he sought to introduce, by atomization, a pure culture of bacterium termo into the air-passages, in the hope that this lusty auxiliary would meet, conquer, and execute capital punishment upon the intruding bacillus, and thus rid the lungs of his presence. Cases are not wanting in which benefit is claimed from this procedure.

The premises from which this method is deduced are far too vague, and contain too much which is yet unproved, to warrant our putting any more faith in the method than what can be based on experience with it. We first assume that phthisis is due to the tubercle-bacilli,—which is true in but a limited proportion of cases, for we may still quote approvingly the sage re-

mark of Felix von Niemeyer, that the greatest danger to a consumptive is that he may become tuberculous. Next, it is not fairly proved that any such antagonism exists between bacterium termo and the tubercle-bacillus. Third, it is highly probable that the bacterium termo is a worse enemy than the microbe it is supposed to antagonize.

In a late number of the *Philadelphia Medical Times* I have recorded a case of accidental infection of the pulmonary tract with the germs of decomposition. The symptoms which resulted were strikingly similar to those of acute phthisis, and up to the present time have resisted every effort to effect a cure.

Taken all in all, we may say that this method, based on the most flimsy interpretation of the modern germ-theory, may be dismissed from serious consideration until its distinguished author has given us better reasons for its adoption than have yet appeared.

But what of the method of Bergeon,—the renowned rectal inflation by carbonic and sulphydric acids?

Introduced by the proprietors of a mineral spring whose waters contained the ingredients mentioned, the method has received the enthusiastic endorsement of the surgical-instrument manufacturers. Under their skilful management, coupled with the wide-spread desire for a remedy for consumption which, by its singularity, seems to give a hope of success such as has never crowned the ordinary methods, this has become popular to the extent of a craze.

It is not wanting in able advocates in the profession. We are informed by hosts of observers that under the use of these gases the patient gains strength, puts on flesh, the night-sweats cease, the fever falls, the cough lessens, the appetite returns, and despair gives way to hope in the patient's mind!

To one who is an experienced observer of consumptive cases, and who has lived long enough to have seen the rise and fall of successive cures, there is an indescribable pathos in these words. Some of you may recollect that when Bennett introduced cod-liver oil he claimed that it checked the sweats, lessened the fever, restored the strength, improved the appetite, etc. We have not forgotten that when the hypophosphites were brought out they were heralded by the same hopeful expressions. And throughout the long list of new remedies the same claims are put forward. Each is an improvement on all that preceded it; each makes a new epoch in the treatment of consumption.

If this be true, if to the results obtainable from all previously-known agents we add the effects claimed by Bennett for cod-liver oil, by Churchill for the phosphites, elevate our patient still higher with Chaulmoogra oil, harden his tissues by tanning them, preserve him with carbolic hypodermics, impregnate the air he breathes with eucalyptol, gorge him like a Strasburg goose by Debove's method, and, finally, inflate him with gas,—if we continue to pile upon him every successive improvement, where will he land? Will his sweat-glands become finally hermetically sealed, his appetite rival that of the Dragon of Wantley, his weight wax greater until he make Fat Bessie envious, and his strength render him a new Hercules? Or will he not rather, in spite of all our efforts, march steadily down to join the innumerable throngs who have preceded him to the consumptive's grave?

We know that there is not a symptom of consumption which cannot be alleviated. We can check the sweats by agaricine, by atropia, by lacto-phosphate of lime, by a dozen other means; we can control diarrhœa by silver, zinc, and bismuth; we can soothe the cough by opiates, relieve the dyspnœa by quebracho, restore the appetite by acids, and, in a word, can successfully cope with every individual symptom. And, in spite of all, the phthisis marches steadily, relentlessly forward. No, gentlemen, the effects of these successive so-called cures for consumption are not cumulative,—they are identical. They differ in their action upon the various symptoms, but nine-tenths of their true effect is upon the patient's mind. The *modus operandi* is as follows. The physician reads that Professor Blank has discovered a cure for consumption whose effects are truly wonderful. Others try the new remedy, and verify the glowing accounts of the discoverer. The doctor catches the enthusiasm: gets the remedy and takes it to his patient, telling of its marvellous virtues. The genuine hope of the physician awakens that of the patient. The effects expected so ardently soon show themselves, and for a while all goes on swimmingly—until the first failure.

Do we ever succeed so well with a remedy after that first failure? How sure we were that oxalate of cerium was a certain remedy for the vomiting of pregnancy until that fatal first failure; since when it has become useless, the patient reading doubt in our own eyes!

But notwithstanding my lack of faith in it, I have given the method of Bergeon a trial; for I hold that there is a grain of truth at the bottom of every popular delusion, and to obtain this grain of truth it may be worth while to winnow away the bushel of chaff.

Three cases of phthisis (tubercular) have been treated under my supervision by the rectal inflations. I am sorry to say that in no case has there been any perceptible improvement. In one case of advanced phthisis the progress of the disease became much more rapid, but I think this would have been the case had no treatment been instituted.

In a case of suppuration of the cervical glands, with ulcers on both legs, but no lung-disease, rectal injections of carbonic acid alone had a surprising effect. This case had resisted all previous efforts, and was rapidly failing until the gas was used. Each injection was followed in the course of an hour by the occurrence of a ravenous appetite; the food was digested, and the patient's improvement was rapid.

In a case of uterine cancer the gas has not shown any such invigorating power.

These few experiments indicate what I believe will be the final dictum on the subject: that the gas will prove useful as a tonic measure and as an anæsthetic in relieving the cough and dyspnœa of phthisis, but that it will not cure a single case of bacillar consumption.

The use of sulphuretted hydrogen appears to be dangerous and unnecessary. Dupont states that Bergeon himself has given it up, concluding that the good effects are due solely to the carbonic acid. Dupont also calls attention to the fact that these good effects are not so marked as those he has described some years since as following the inhalation of carbonic acid mingled with oxygen. Moreover, by this method he administered as much as one hundred and fifty litres of gas each day, whereas by rectal injection not more than six litres can be used. When the sulphuretted hydrogen is omitted, the effect sought is no longer that of a germicide, but simply a tonic and anæsthetic one, as no other power resides in the carbonic acid.

To conclude, I must express my belief that the results of this treatment will not differ much from those alluded to in the remark of an old patient who had been drinking blood. When I asked him how he was affected by it, he answered that it did him a world of good, and would have eventually cured him, but he got too weak to go to the slaughter-house after it.

Though a thorough believer in the modern germ-theory, I look for greater success in prolonging life and rendering it comfortable by carefully preserving the forces, by checking waste, especially from fever, by maintaining the digestion, and by surrounding the patient with suitable climatic and hygienic conditions, than by any patent, ready methods whatever.

REPORT ON RECENT PROGRESS IN GYNÆCOLOGY AND OBSTETRICS.

BY W. H. H. GITHENS, M.D.

RENAL AFFECTIONS, ECLAMPSIA, ETC., OF PREGNANCY AND LABOR.

A. F. A. KING, M.D., of Washington, D.C., in the *American Journal of Obstetrics*, publishes an article giving a novel and reasonable explanation of the causation of the renal disorders and eclampsia complicating pregnancy. The cases he especially considers are those occurring, for the most part, in primiparous women during the latter months of pregnancy, which usually begin with œdematous swelling of the feet, face, and hands, with or without general anasarca, attended by scanty and high-colored albuminous urine, containing renal epithelium, tube-casts, and blood-corpuscles, and which sooner or later may develop headache, gastralgia, nausea, vomiting, derangements of the special senses, and the usual phenomena of uræmia, ending, if not relieved, in eclampsia, premature delivery, etc., and sometimes in death of both child and mother.

Disturbances in the renal circulation and functions are produced chiefly by pressure of the gravid uterus upon the abdominal aorta or its branches, or upon the vena cava or its branches, or all of these, *in consequence of the child and womb not maintaining during pregnancy their normal lateral obliquity above the pelvic brim.*

The normal attitude of the child before labor begins *is the dorso-anterior position of an oblique presentation* (commonly, inexactly, and erroneously termed a "transverse" presentation). A head-presentation, as this expression is usually meant to imply presentation of the head "towards the centre of the canal of the pelvis and os uteri," with the long axis of the child parallel with the axis of the plane of the pelvic brim, is abnormal during pregnancy.

The normal position of the gravid uterus during the latter months of pregnancy, before labor begins, is the lateral oblique, corresponding with the oblique position of the child, the fundus uteri containing the pelvic extremity of the fœtus being usually directed towards the right side of the lumbar vertebræ: this being due to the shape of the organ conforming to the shape of its contents; the os and cervix may still be found, on vaginal examination, with but little or no lateral deviation from the median line.

When the womb and child have risen from the pelvic cavity into the abdominal cavity, they should so remain until the advent of labor. The pelvic canal is chiefly the *channel of exit,* and no part of the child should again enter it until it is ready to go out and be born; while the abdominal cavity above the brim is the *cavern of residence.* These statements apply to primiparæ as well as to multiparæ, and the author joins issue with those "high authorities" who teach that it is normal for the fœtal head in the former to "descend into the pelvic cavity three months before full term," calling this descent the *second* stage in the "mechanism of labor." Can it be that this "second step" *normally* occurs in primiparæ three months before it is time for labor to begin? He believes the oblique presentation, with the lower end of the fœtus resting upon an iliac fossa, to be normal in both.

Just before the end of pregnancy the uterine contractions premonitory of actual labor serve to alter the long axes of womb and child from their oblique position, and bring them sufficiently in line with the axis of the plane of the superior strait to allow the lower end of the fœtal ovoid to slip off the cushioned ledge of the iliac fossa on which it has reposed and commence its descent into the pelvic cavity. This change in the position of the child is probably one of the direct exciting causes of labor.

When the womb and child maintain during pregnancy their normal lateral obliquity, the canal of the cervix, from the external to the internal os, will remain until full term unobliterated, which is the normal condition for both primiparæ and multiparæ.

When the normal obliquity of womb and child is maintained during pregnancy, there will be no injurious compression upon any blood-vessels. So long as the child remains poised obliquely above and across the pelvic brim, certainly nothing below the brim will be compressed; nor will the fundus reach high enough to touch the renal blood-vessels which lie on the second lumbar vertebra. That part of the child and womb in contact with the lower lumbar vertebræ will contain no hard part by which injurious compression of the aorta or iliac arteries could be made; and the head of the child will tend to glide away from the woman's spine, away from the aorta and iliac vessels.

When, on the contrary, the womb and fœtus maintain a vertical position,—that is, with their long axes in line with the axis of the plane of the pelvic brim,—they are continually crowded for space by their abdominal surroundings, and the direction of this crowding is chiefly downwards and backwards towards the lumbar spine and the blood-vessels that lie upon it, finally compelling the lower segment of the womb to descend prematurely into the pelvic cavity.

Dr. King assumes that pressure of the gravid womb upon the aorta, vena cava, and their branches will produce renal disorder. Another factor is compression of the ureters by the gravid womb.

Œdema and venous congestion of the lower extremities is the best evidence of venous obstruction higher up; hemorrhoids, varicose veins, and thrombi of the vulva are additional evidence. Aortic compression would be indicated by tension of the arterial system above the obstruction, as shown by tension of the radial pulse, which is especially pronounced in uræmic cases.

In cases with albuminuria, nephritis, and uræmia, the convulsions occur in the same way as they do in males suffering

from uræmia consequent upon Bright's disease. Cases with but little or no albuminuria or kidney-trouble, but in which albuminuria may be increased by the convulsions, are explicable upon the "uterine irritation" theory of Tyler Smith, who maintained that true puerperal convulsions were produced by centric or peripheral irritation of the spinal system of nerves; pregnancy, labor, or the puerperal state being recognized causes of such an irritation. An abnormal position of the uterus and fœtus, with premature obliteration of the cervix, premature distention of the cervical canal and lower uterine segment, with thinning of its muscular wall and tearing of its decidua, and premature descent of the lower end of the fœtal ovoid below the pelvic brim, are amply sufficient to account for the uterine irritation which Tyler Smith conceived to be the peripheral exciter of convulsions, even when there was but little or no renal disturbance; and in such cases the convulsions would be increased in strength and frequency during labor.

The causes of the abnormal position of the uterus and contents are tight dress, corsets, coitus, and abnormal postures,—resting the hands and forearms above the abdomen, bending forward when standing or walking.

Dr. King has searched very widely through the attainable obstetric records for facts and figures bearing for and against his theory, and has made out a very strong argument in its favor. His method of treatment follows naturally from the supposed cause. In cases of albuminuria or anasarcous limbs or congestive headache the first requisite is to discover and correct any abnormal position of the womb and fœtus, securing a transverse or oblique position of the head above the brim of the pelvis by manipulation or posture, alone or combined, and correcting errors in dress, posture, and habits.

ETIOLOGY, PATHOLOGY, AND CLASSIFICATION OF SALPINGITIS.

In the proceedings of the Gynæcological Society of Chicago, December, 1886, appears a letter from M. Sänger, M.D., of Leipsic, on this subject. There must necessarily be as many forms of pelvic abscess as there are forms of disease of the Fallopian tubes. In the classification given by him (*Archiv f. Gynaek.*, Bd. xxv. pp. 126–33) six different forms are recognized.

The whole sexual tract, from the ring of the hymen to the ostium tubæ abdominale, is open to the entrance of the external air and the germs suspended in it. Carriers of infection coming from the abdominal cavity and its contained organs may also enter at the ostium tubæ abdominale. Even microbes originally lodged in the external parts may, by way of the lymphatics, reach the peritoneal cavity, and thence gain entrance into the tubes.

It has been clearly proved that pathogenous micro-organisms pass from the external parts to the tubes and the peritoneal cavity. These organisms have, in part, been accurately studied, and it is well known that different kinds produce distinct forms of salpingitis, and, secondarily, pelveo-peritonitis. Our present knowledge of the above-mentioned pathogenous micro-organisms will enable us to divide them into three groups:

1st. A.—*Salpingitis gonorrhœica*, produced by the gonococcus of Neisser.

B.—*Salpingitis tuberculosa*, produced by the bacillus tuberculosis of Koch.

C.—*Salpingitis actinomycotica*, produced by the actinomyces bovis of Bollinger.

The gonorrhœal form is most frequently met with. This fact was clinically established by Noeggerath as early as 1872. It is never followed by a destructive suppuration of the uterine appendages; it remains invariably a disease of the surfaces of the mucous and serous membranes. The pus formed by the specifically-diseased mucous membrane gradually distends the tube. In one class of cases the tube is transformed into a large sac, with thin walls; in another, where the muscular tissue of the tube is hypertrophied to a greater extent, the tube becomes much thickened and rigid. In most cases the uterine portion of the tube is thickened, the abdominal end dilated. The serous surfaces become pus-secreting surfaces only where gonorrhœal pus has escaped from the tubes and infected them. He does not believe that gonorrhœal pus ever penetrates the walls of the tubes, and thus produces serous inflammations; but a specific inflammation of the mucous membrane of the tube is accompanied by a non-specific inflammation of the whole tubal wall. This may excite perisalpingitis, etc., and the organs involved may become adherent

to each other; but we never meet with a purulent exudate of the same nature as that found in the cavity of the tube. In some instances gonorrhœal disease of the uterine appendages is accompanied by severe and violent symptoms resembling those of a peritonitis following perforation. In these cases gonorrhœal pus escapes through the ostium abdominale into the peritoneal cavity. In other cases the peritonitis develops insidiously, the peritoneal inflammation being non-specific in character.

Salpingitis tuberculosa has been fully described in Alfred Hegar's lately-published work, "Entstehung, Diagnose und chirurgische Behandlung der Genitaltuberculose des Weibes."

Salpingitis actinomycotica has been described by Adolph Zemann (*Medicin. Jahrbücher der K. K. Gesellsch. der Aerzte in Wien*, 1883, p. 477, Case 4). The tubes in this case were dilated and filled with pus and clumps of the actinomyces.

Group 2d, Salpingitis septica (pyemica, ichorosa, purulenta, diphtheritica).—It simply means that the inflammation is due to infection by a septic virus. The microbes of puerperal septicæmia are identical with those producing traumatic infection in general. During the puerperium the genital tract is far more susceptible to infection than at other times. All suppuration is due to the action of microbes; several varieties have been closely studied, but they are not all known. In this second group the rapidity of the development of the constitutional symptoms and the malignancy of their course may almost entirely obscure the local disturbance of the genital tract.

Group 3d. Forms of infectious salpingitis produced by specific, but as yet unknown, microbes, *Salpingitis syphilitica.* (*Medical Record*, January 24 and February 7, 1885, by Gill Wylie; and Bouchard and Lépine, *Gazette Méd. de Paris*, No. 41, 1866.) We occasionally find in young girls who have never had intercourse with man, tubes filled with pus, and pelveo-peritonitis. These may be tuberculous or gonorrhœal in origin. One case is related in which the tubal disease was consequent on a retro-typhlitis. Certain infectious diseases, like typhoid fever, scarlatina, variola, cholera, also may invade the genital tract.

EXTRA-UTERINE PREGNANCY SUCCESSFULLY TREATED BY ELECTRICITY.

Two cases of extra-uterine pregnancy treated by electricity with a successful result were reported by Dr. Harrison at the meeting of the Obstetrical Society of New York, February 15, 1887. The pregnancies were of about ten and thirteen weeks respectively.

TRUE HERMAPHRODITISM.

At the same meeting Dr. Fowler presented a wax cast of the pelvic organs of a true hermaphrodite who died at the age of twenty-seven years. Ovaries, Fallopian tubes, uterus, penis, and testicles were all present. Menstruation and urination were through the penis.

TRANSLATIONS.

Evolutionary Stages of the Cells of the Stomach.—At a recent meeting of the Paris Biological Society, MM. Pilliet and Trelat described their researches on the different evolutionary stadia of the cells of the cardiac extremity of the stomach. The glandular cells of the cardiac extremity of the stomach are of two kinds. The principal cells are small, cubic, and transparent, and occupy the lower part of the glands; the bordering cells are especially numerous in the centre and neck of the glands. There is a tendency nowadays to consider these two kinds of cells, so distinct in appearance, as different stadia of one element, and the preparations the author described and showed drawings of apparently confirm this view. In the fœtus the inner surface of the stomach is covered with one single kind of cubic cells.

Laskowsky (1868) and E. Brand (1877) stated long ago that in a pig's stomach the differentiation of the two orders of cells is manifest at a much later period (Baginsky 1882, Coudereau 1883). In fish, reptiles, and birds—that is to say, in a large number of species—there exists only one kind of cells in the portion which corresponds physiologically with the cardia of the stomach. These are large and granular. They resemble the bordering cells; nevertheless, have a similar behavior when submitted to the influence of reagents as that of the two kinds of cells found in the upper vertebræ, and consequently constitute a third kind, a mixed kind; their resemblance to the gastric gland has yet to be determined. On a fœtus of a horse of

thirty-five centimetres, the mucosa is raised by large club-shaped folds of areolar connective tissue containing large voluminous capillaries. These folds describe regular villosities and very high ones. The epithelium is composed of prismatic cells ranged in one row; they present a large nucleus and granular protoplasma. There are not any calceiform cells on the surface, nor any differentiated cells at the bottom of the culs-de-sac. The aspect presented is rather that of the intestine than that of the stomach, and this in an animal of considerable size. By an incision made on a level with the lower stomach of a pig's fœtus weighing sixteen centimetres, the peritoneum was found to be composed of fusiform cells closely pressed together; then comes the external muscular layer in the form of a thin covering, of which the lengthened nuclei are of a considerable size as compared with the cellular body. The internal muscular layer is much more developed, and its most inward layer has a tendency to become divided in two; a certain number of its bundles approach the chorion in order to constitute the first rudiments of the mucous muscular layer.

The chorion of the mucous membrane presents irregular conical points; these are separated. The epithelium is composed of cubic cells with large nuclei, occupying almost the whole cell; it is clear, and presents several punctiform nucleoli. These cubic cells, ranged in one row, are limited by a thin cuticle with a double outline. On the stomach of an adult pig, the *pharocothere* treated with alcohol and hæmatoxylin, the evolution of the cells of the gastric gland could be followed through the different stages; it is in the middle of the tubes that the most varied types are to be met with. Each canal is lined with a row of cubic cells with large ovoid nuclei, which present several nucleoli. These cells are pressed against each other, sometimes in a mass in which the cellular outline becomes indistinct. In the centre of the canal is a considerable space. Immediately outside the investment lining of cubic cells and almost continuous with them are the bordering cells, arranged at the periphery and slightly projecting.

But the following fact, which allows of connecting the different cells together, may be observed. A certain number of the principal cells are enclosed in a cytoplasmic granular body, and are intermediary to the cubic cells with hardly any cellular body which are in the centre of the tube, and to the bordering cells which are outside them. All the forms of transition are found here, but it is only in these cells and in the axial cells that ovoid or lengthened nuclei are observed. These cells in developing press back the external wall of the gland, so that each cell, round or oval, provided with lateral expansions fixing it to the wall occupies a little box-shaped enclosure situated on the external side of the glandular tube. It is the series of these small nodosities which gives to the isolated gland its moniliform aspect. In certain places there is most frequently only one cell in each small diverticulum. But sometimes there are several; those at the entrance of the neck of the little enclosure belong to the intermediary stage, and are in continuation with the investment lining of the principal cells. Around each diverticulum are large membranous cells, which compose the connecting cellular lining of the glands. There is no special vascular system, as the capillaries ascend between the glands.

MM. Pilliet's and Trelat's data concerning the formation of the bordering cells very nearly agree with those of Garel (1877), Toldt (1881), Schwale (1878), Ph. Stolz (1882), Kölliker (1882). What becomes of these elements?

These cells present all their characteristic granulations grouped in a special manner round the periphery of the element, leaving a clear space between them and the nucleus. The nuclei in a series of cells, regarded from this point of view, present all the degrees of atrophy up to the complete disappearance of the nucleus. At the same time the granulations of considerable size at the beginning are replaced by much finer grains which absorb the clear space above mentioned and invade the whole cell, which is considerably shrunk. In these small enclosures which contract there are also a certain number of thin granular masses, which gradually disappear. At the same time that this evolution is accomplished inside on a given point in the tube, it also takes place in the whole length of the same tube; the principal cells being considerably more frequent at the bottom of the cuticle sac, and the bordering cells at the neck of the glands. In the pyloric portion, on the

contrary, the glands, more ramified, only present one kind of cells; and in the animal now studied they offer the greatest analogy with the principal cells at the bottom of the glands; those of the neck undergo in part the mucous transformation. In short, the principal cells on these parts may be seen by gradual evolution to resemble the condition of the bordering cells at the same time as they retreat from the axis of the glandular canal; they become atrophied on the spot, but do not then fall into the stomach. (Researches made at the Laboratoire des travaux pratiques de la Faculté.)

Iodol as an Antiseptic Dressing for Wounds and for Internal Use.—M. le Docteur Assaky, Professeur agrégé des Facultés de médecine de France, Professeur de Clinique Chirurgicale à la Faculté de Bucharest, read a paper at the recent International Congress, of which the following are the conclusions:

I. Wounds unite under iodol by first intention. This union, however, being the result of various and complex conditions attending the operation, it is not possible to attribute to iodol alone the absence of suppuration and inflammatory conditions. In wounds which gape and suppurate, iodol is an excellent antiseptic. It retards suppuration, renders the discharges inodorous, reduces the frequency of dressing, and considerably hastens cicatrization. In ulcerating or gangrenous wounds, iodol aids to resist the destructive process, and changes the wound, after a variable time, to a healthy granulating condition. This action of iodol extends also to hard chancres. In case of soft chancres the result is variable. Sometimes it transforms them into a simple granulating wound; at others it is insufficient for this purpose, and it becomes necessary to employ antiseptic lotions in addition.

The same is true with reference to open venereal buboes of the groin. The powdered iodol has this advantage over iodoform, that it is free from odor and is not toxic in its effects.

II. Doses of iodol of from 0.40 centigrammes to two grammes daily produce no functional trouble, even if continued a long time.

These doses give marvellous results in tertiary syphilis and in scrofulous affections. In the secondary stage of syphilis, taken internally, it rapidly destroys the syphilitic manifestations. Iodol seems to aid the general nutrition and increases strength and flesh. It is indicated in all cases of specific malnutrition.

Iodol is an antipyretic. In acute infectious diseases, such as erysipelas, etc., it causes a rapid fall of temperature.

Spermatorrhœa.—Sinety (*Journal de Médecine de Paris*):

℞ Extract of belladonna, 20 centigrammes;
Powdered belladonna, 20 centigrammes;
Confection of roses, q. s. M.
Divide into ten pills.

In nocturnal spermatorrhœa resulting from spasm of the seminal vesicles, the patient must take, at bedtime, from one to three pills, taking the whole dose at once; or he may take five centigrammes of camphor or ten centigrammes of lupulin or one drachm of bromide of potash daily. If, on the contrary, there be atony of the seminal vesicles, injections of cold water and cold douches of ten to twenty seconds' duration are indicated. In addition, morning and evening, ten centigrammes of freshly-powdered ergot and two centigrammes powdered nux vomica are administered. Friction over the lumbar region and internal surface of the thighs with spirits of camphor is beneficial.—*Canadian Practitioner.*

Temperance by "Suggestion."—One of the phenomena which characterize that curious condition known as "hypnotism" is the passive obedience yielded by the subject of experiment to the commands—or, rather, suggestions—of the operator. It is sufficient for the latter to "suggest" that the person under its influence can or cannot do a certain thing, to confer or withdraw the power. This fact is utilized by itinerant showmen for the sake of the irresistibly comic effects to which it can easily be made to give rise. One of the latest applications of this occult power exercised by the mesmerizer over his victim is reported from Soissons, in France, where a local drunkard was inhibited from indulgence in his customary beverages, to the great benefit of himself and the joy of his friends. Possibly the temperance cause may find in hypnotism a valuable ally, but it is probable that the influence of such a salutary suggestion does not last as long as might be desired in the interest of the subject to be reformed.—*British Med. Jour.*

The American Gynæcological Association held its annual meeting in New York during the past week, Dr. A. J. C. Skene, of Brooklyn, presiding. The meeting was of unusual interest from the fact of the presence of a number of foreign visitors who had been attending the International Medical Congress.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 17, 1887.

EDITORIAL.

ANNOUNCEMENT BY THE PUBLISHERS.

DRS. FRANK WOODBURY and WILLIAM F. WAUGH having purchased the *Philadelphia Medical Times*, it will be continued by them after the present issue.

J. B. LIPPINCOTT COMPANY.

PHILADELPHIA, September 17, 1887.

The J. B. Lippincott Company having transferred to us the ownership and goodwill of this journal, at the beginning of the eighteenth volume, we propose to take advantage of the change to give it a new dress and to introduce other improvements which we think will be acceptable to our readers, while scrupulously maintaining the high standard hitherto established by the publishers. These changes will be referred to more explicitly in the next issue.

FRANK WOODBURY, M.D.,
WILLIAM F. WAUGH, A.M., M.D.,
Editors and Publishers.

THE MEETING OF THE INTERNATIONAL MEDICAL CONGRESS.

IN a note which appeared in the editorial columns of this journal nearly two years ago (October 31, 1885) it was stated that "we believe (1) that a successful and thoroughly creditable meeting of the International Medical Congress will be held in Washington in 1887; (2) that, in spite of malcontents and irreconcilables, existing difficulties will be successfully surmounted under the guidance of Drs. Flint and Davis and the Executive Committee; (3) that a way will be provided for those gentlemen who resigned under a misapprehension to return and accept the offices to which they were originally nominated; (4) that several aspiring Hamlets will be absent when the final cast is made for the play, and they will not be missed."

At the time that those words were penned the prospects for an American International Medical Congress were dark indeed; but our faith did not waver, because it was founded upon the intelligence and patriotic sentiment of the medical profession of this great country. The attempt made by certain men to capture the Congress in the interest of a few Eastern medical schools, and to divide all the offices between themselves and their friends, was, happily, thwarted by the American Medical Association at New Orleans, the members of which emphatically expressed their disapproval of the course taken by men whose prominence in the profession only made their conduct the more reprehensible. To this disagreeable incident we shall not again refer. The Congress is over, and we simply desire to mention the fact that our prediction has been verified. It was not only successful and thoroughly creditable, but it was, according to President Davis, the largest International Medical Congress which has yet been held, if the number be taken of those who came from outside of the city in which its sessions were held. The attendance was so unexpectedly large—there being over two thousand seven hundred names upon the registration-book—that the Entertainment Committee, during the first part of the week, was evidently somewhat embarrassed; but all difficulties were smoothed over later in the week, and every visitor left with the most pleasant impressions of the Congress, and fully satisfied with the work of the Executive and Entertainment Committees.

With regard to the scientific proceedings of the Congress, Sir James Grant

declares that they will compare favorably, in point of number and intrinsic value, with those of any previous meeting of the Congress. Critics who think otherwise will do well to wait until the "Proceedings" have been published; they will appear about the 1st of next year.

One of the novel incidents of the Congress was the publication of a daily edition of the *Medical Register*, of Philadelphia, reporting the proceedings of the eighteen sections and the general session of each day. Such an evidence of American energy, undertaken out of compliment to the Congress, should not be allowed to pass without special mention.

THE PHARMACOLOGY OF SOME BODIES DERIVED FROM MORPHINE.

ONE of the most interesting papers read before the Section on Therapeutics and Materia Medica of the Ninth International Congress was one on the pharmacology of some bodies derived from morphine, by D. B. Dott, F.R.S.E., and Ralph Stockman, M.D., and presented by the latter. The relationship between chemical constitution and physiological action must always be a subject of deep interest to the pharmacologist. In the communication just mentioned the authors discuss briefly the action of a few of the substitution products of morphine as compared with that of the original alkaloid.

How was one of the first chemists who attempted to modify the constitution of alkaloids by acting on them with other bodies. He treated morphine with methyl iodide (CH_3I), and obtained a crystalline body which he named hydriodate of methyl-morphia. This substance he regarded as being formed by the substitution of methyl (CH_3) for one atom of hydrogen (H) in the morphine molecule. In the light of our present chemical knowledge we know that it is not a substitution product, but an addition product, and that the methyl iodide is simply added on to the morphine.

It seems doubtful, indeed, if such bodies are to be considered as morphine compounds. They are more probably new alkaloids. Fraser and Crum Brown examined the physiological action of these morphine bodies, among others, and found that they had a curare-like action. From the nomenclature which they adopt, it is evident that these observers regarded the bodies which they investigated as addition and not as substitution products. Notwithstanding this, we find that in all reference- and text-books which treat of the subject these bodies are spoken of as obtained by substitution, and the opinion is generally held that the substitution of methyl for hydrogen in an alkaloid causes the latter to assume in all cases the action of curare.

There is, however, a great difference both in chemical constitution and physiological action between the addition body ($C_{17}H_{19}NO_3,CH_3I$) and the substitution body $C_{17}H_{18}(CH_3)NO_3$, independently of the iodine contained in the former. As a preliminary, it is necessary to say a few words about morphine itself. It has the formula $C_{17}H_{19}NO_3$, but is better written $C_{17}H_{17}NO.(OH)_2$, containing thus two hydroxyl molecules. It has been repeatedly shown that it is the hydrogen atoms in these hydroxyls which are most easily replaced by such radicals as methyl (CH_3), ethyl (C_2H_5), and acetyl C_2H_3O).

As regards the action of morphine on frogs, two stages, roughly speaking, may be distinguished with doses of thirty to fifty milligrammes. The first stage is characterized by narcosis, the second by tetanus.

In mammalia the second stage is not so easily observed, as the animal generally dies from failure of respiration before its supervention. If artificial respiration be employed, however, the tetanus is permitted to develop fully.

The first body which our authors considered was methyl-morphine, $C_{17}H_{18}(CH_3)NO_3$. It has long been known that codeine prepared from opium had a formula which entitled it to be regarded as methyl-morphine. It was not until 1881, however, that it was prepared artificially from morphine by Grimaux. He showed that methyl-morphine is similar, chemically, to codeine prepared from opium. They prepared this body practically by the same method as Grimaux used, and found that its physiological action is exactly similar to that of codeine as described by Schroeder and others. That is to say, that while in frogs and mammalia it readily induced narcosis, its tendency to cause tetanus was very much greater than that of morphine. It is a much more poisonous substance than the last-named alkaloid, and causes, in a much higher degree, disagreeable symptoms of vomiting and diarrhœa.

Ethyl-morphine, $C_{17}H_{18}(C_2H_5)NO_3$, has exactly the same action as methyl-morphine. It is, therefore, quite immaterial, as regards physiological action, whether the hydrogen atom in morphine be replaced by ethyl or by methyl.

Acetyl-morphine, $C_{17}H_{18}(C_2H_3O)NO_3$, and diacetyl-morphine, $C_{17}H_{17}(C_2H_3O)_2NO_3$, were also examined, and were found to have the same action, qualitatively, as the preceding bodies. They are, however, considerably more powerful, both as narcotics and tetanizers. When administered to dogs, the distress, vomiting, and diarrhœa which were produced were all very extreme.

Dimethyl-morphine was also formed, but at the present time they are hardly in a position to say which H atoms are substituted by the two methyl molecules. Its action differs so entirely from that of diacetyl-morphine that they inferred that different changes had occurred. It was found to be a muscle-poison, resembling saponin somewhat in its mode of action, and to have no narcotic effect, or very little.

From what has been said, it is evident that none of these bodies are to be preferred, clinically, to morphine. With the exception of dimethyl-morphine, they are all more poisonous, and, judged by their action on dogs, possess in a very high degree the tendency to produce nausea and other disagreeable symptoms.

LEADING ARTICLE.

THE GUIDING PRINCIPLES OF TREATMENT IN EXCESSIVE CORPULENCE.

(Continued from page 801.)

A MARKED tendency to overproduction of fat occurs in persons of diminished nervous irritability. Individuals of the so-called "nervous temperament" rarely get fat. On the contrary, those of a phlegmatic type are especially prone to excessive adipose accumulation. Melancholia and "depression of spirits" are not infrequent causes of obesity. This did not escape the acute observation of Shakespeare, who makes Falstaff say,—

"A plague of sighing and grief! it blows up a man like a bladder."

It is probable, however, that in this individual case sack had more to do with Falstaff's fatness than sighing and grief.

The corpulency of alcohol- and beer-drinkers is well known. It is likely that the depression of nervous excitability due to the constant use of alcohol is partly responsible for the fat-accumulation, although the alcohol in ardent spirits, and in the case of beer the carbo-hydrates additionally present, acting as respiratory food, save a portion of the fat in the food from oxidation and permit its deposit as fat-tissue. Although fleshy beer-drinkers are said in popular parlance to be "bloated," meaning by that a defective or inferior kind of fat, there is no evidence that their adipose tissue differs in quality from that produced by other causes.

Many physicians seem to consider corpulence as merely of cosmetic importance to the individual. This is by no means the true state of the case, for the obese subject is exposed to many discomforts

and dangers which his leaner neighbor escapes.

The discomforts of corpulence are sluggishness of movement due to the increased weight of the body, fatigue on slight exertion, hyperidrosis (which is often a troublesome symptom and frequently complicated with intertrigo and eczema), shortness of breath (produced by excessive accumulation of fat in the abdomen and consequent interference with the free motions of the diaphragm), and weakness and rapidity of the pulse. In young women there is often amenorrhœa. The latter is usually a consequence and not a precedent condition of corpulence. Fat married women are frequently sterile, and in both sexes there is depressed sexual desire.

The more dangerous conditions dependent upon or associated with corpulence are fatty accumulation around the heart interfering with its free action, fatty degeneration of the muscular structure of the heart, angina pectoris, chronic endarteritis and its consequences, arterio-sclerosis, and apoplexies which not infrequently result in death. There is often fatty infiltration or degeneration of the voluntary muscles, and of the glandular organs, such as the liver and pancreas. The tendency to the development of diabetes and to the eruption of boils and carbuncles is well known. Some observers, among whom are especially to be mentioned Meckel and Wunderlich, have noticed a pronounced predisposition to cancer in corpulent persons, but this is denied by Kisch. The writer would suggest that sarcoma is much more liable to occur in the corpulent than carcinoma. The former confusion of sarcoma and carcinoma may have given rise to the opinions of Wunderlich and Meckel.

It is an observation as old as Hippocrates that corpulent persons bear febrile diseases badly. The infectious diseases, especially typhoid and pneumonic fevers, give a very unfavorable prognosis in obese patients. The danger may be in great measure ascribed to the difficulty of keeping down the temperature in such individuals. The thick fat-cushion prevents loss of heat by the surface. Active antipyretic treatment is urgently indicated in corpulent fever-patients.

The theory that fat is principally the product of carbo-hydrate food is the basis for most of the methods of treating corpulence by regulation of the diet. The best known of these methods is that prescribed by Dr. W. Harvey for a patient by the name of Banting, who was so pleased with the good results in his case that he afterwards published the details of the method in a pamphlet. The Banting diet consists in a large excess of proteids, and great diminution, almost to extinction from the bill of fare, of fat and carbohydrates. On the theory that proteids alone are muscle-builders, while fats and carbo-hydrates are fat-forming foods, the Banting diet was correct, but the evils of a strict adherence to it were manifest before the recent physiological researches demonstrated the fallacies of the theory. There can be no doubt that Bantingism will reduce excessive fatness, but it also decreases the proteid constituents of the tissues, and may thus cause dangerous and even fatal consequences. It is frequently impossible to arrest the rapid waste of muscular tissue under the Banting diet, and the individual rapidly declines in health, even if the diet is withdrawn and the patient put on liberal allowance. Heart-failure and great general weakness are also quite frequent, and Dr. Fothergill attributes to Bantingism a tendency to the development of lithiasis, with its bad consequences.

On account of the evil results which were frequently noticed as following the strict Banting diet, this has been modified in various ways. Vogel, who introduced the method in Germany, allowed a larger proportion of carbo-hydrates, while Immermann proposes to interrupt the treatment occasionally and allow the patients to resume their habitual diet for a period. On the other hand, Cantani, the eminent Italian clinician, insists even more strongly than Banting upon the rigid exclusion of fats and carbo-hydrates. Beer, spirits, and the stronger wines are restricted or excluded from all dietaries for corpulence. Light acid wines are alone allowed.

In the last five years two new methods, deviating in a rational direction from Bantingism, have attracted the attention of the profession. The first is that of Professor Ebstein, of Göttingen, who proposes a reduction of proteids and carbohydrates and an increase of fat. The philosophical reasoning of Ebstein claims careful consideration, since he bases it upon acknowledged physiological facts. He claims that less fat is deposited if there

is much fat in the food than if the food contained an equivalent quantity of carbohydrates. Practical experience sustains this claim, as well as the further one that a smaller proportion of proteids suffices than is generally assumed. But an important point insisted upon by Ebstein is usually overlooked by his followers: namely, that active muscular exercise assists in the destruction of fats. It is in this single point that Ebstein's method presents the greatest advance over Bantingism.

Oertel's method, which has also many earnest advocates, approaches in its dietetic prescriptions very closely the Banting system, as will be shown presently by a comparison of the different classes of food-materials in the various plans; but an important element in Oertel's regimen is the extremely small quantity of fluids permitted. This is not original with Oertel, as Dancel had already in 1863 insisted upon its importance.

Oertel believes that many of the discomforts of corpulence—to a great degree the corpulence itself—are due to an overfilling of the venous system, and that in consequence the heart is overburdened, the circulation retarded, and tissue-metabolism diminished. In addition, an excessive development of the finer vascular apparatus gives opportunity for the increased accumulation or deposit of fat. Now, by reducing the amount of water or other liquid consumed, the distention of the venous system is relieved,* the heart is allowed to act more forcibly, promoting oxidation and thus consumption of fat-tissue, and areas of small blood-vessels are obliterated, thus limiting new deposit of fat. The deprivation of fluids is also an essential part of the treatment which was successfully recommended by Dr. Schwenninger to Prince Bismarck a few years ago, and which was the occasion of an unfortunate ethical scandal in Berlin. The Schwenninger cure does not differ materially from that recommended by Oertel. Active out-door exercise is also an important part of Oertel's method.

Professor Kisch, of Prague, who is resident physician at the famous sulphate-of-soda springs of Marienbad, has had a very large experience in the treatment of corpulence. He prescribes the waters (which act as a purgative), advises active exercise, and regulates the diet. Doubtless good results follow this treatment, for it is based upon rational principles. The treatment by cold baths and exercise is also successfully applied for the relief of this condition by Winternitz, of Vienna.

Directly contrary to the advice of Oertel to reduce the fluid allowance of corpulent patients, Sée, of Paris, largely increases it. "Let your patients drink,—drink all the time," is the advice he gives. He thinks tea the best beverage, and that it should be consumed in large quantities. This practice is based upon the fact that free drinking of water promotes tissue-metabolism, and hence increases the oxidation of the fat, as pointed out by Landois. The tea renders the water more palatable, and likewise acts as a nervous stimulant.

There is abundant testimony that all these methods are efficient for the reduction of corpulence. In view of the variation of the special dietaries from one another, as well as from the standard diet calculated by the physiologists, there is reason to believe that the effect is not dependent upon the diet alone, but that the collateral regimen, such as the exercise and culture of the skin, has something to do with the result. Voit's standard diet for an average-sized man doing moderate work consists of one hundred and eighteen grammes of proteids, fifty grammes of fat, and five hundred grammes of carbo-hydrates. For comparison, the following calculations of the amounts of the various food-stuffs in the Banting, Ebstein, and Oertel diets are given:

	Banting.	Ebstein.	Oertel.
Proteids.....	170–180 grms.	105 grms.	156–170 grms.
Fats.....	7.5 grms.	60–100 grms.	22–43 grms.
Carbo-hydrates	80–85 grms.	45–50 grms.	71–114 grms.

Landois recommends a gradual and equable reduction of the entire bill of fare, with active exercise in the open air, purgation, cool bathing, stimulation of the skin, restricted hours of sleep, light clothing, and free consumption of liquids. There is reason to believe that such a regimen is more efficient and safer, even if not so rapid in its action, than a plan which depends principally upon the withdrawal of one or other class of food materials.

Regarding the form of exercise to be taken, much latitude may be allowed. Walking, which is the most generally attainable, is efficient and usually agreeable. Horse-back-riding and boating are more ex-

* See an article by Salzer, "The Irritable and the Depressed Heart," *Philadelphia Medical Times*, Nos. 504, 505.

pensive, while bicycling is not devoid of danger to a heavy-weight. Wood-chopping is an excellent means of toning up muscles as well as burning up fat, and the examples of Horace Greeley and Gladstone show that it can be indulged in without loss of dignity.

In prescribing exercise to a corpulent patient, too much should not be expected in the beginning. The muscles have probably long been unused to active contraction, are infiltrated with fat, and rapidly wearied. The new life must be acquired gradually. Early rising, a cold bath, a short but brisk walk, followed by a bath and a spare breakfast, will, if daily repeated, soon drive from the patient his languor and melancholy humor. The after-dinner nap will after a struggle be left off entirely, especially if the dinner be not too abundant or varied. Food should be plain, well cooked, and inviting. It adds nothing to the effectiveness of the treatment if the table has an uninviting appearance. Fats may be used in moderation, but all saccharine substances, beer, ale, or porter, strong wines, and saccharine vegetables should be used very sparingly. They need not be excluded from the diet-list entirely. As a cardiac stimulant a little whiskey and water or a glass of claret, hock, or hard cider may be taken occasionally if needed, although coffee and tea will usually answer the purpose well enough.

The main thing for corpulent persons is, however, active exercise. This, if persistently carried out, will not merely reduce weight, but restore health and strength, which a pure diet-cure often fails to do.

But, after all is said, the management of the individual case must be left to the judgment and discretion of the physician. Corpulent patients differ as widely as temperaments and noses. Some cases will require ferruginous tonics, others cardiac stimulants, still others remedies addressed to prominent complications. Hyperidrosis, eczema, diabetes, dyspnœa, palpitation of the heart, dyspepsias, renal troubles, need attention. In few morbid conditions is careful attention to such details rewarded by better results than in corpulence.

Both the patient and his allowance should be weighed regularly at weekly intervals, in order that the effect of the treatment may be constantly gauged.

GEORGE H. ROHÉ, M.D.

NOTES FROM SPECIAL CORRESPONDENTS.

LONDON.

BACKWARD STATE OF THERAPEUTICS AND PHARMACOLOGY IN THE UNITED KINGDOM—STROPHANTHUS—TREATMENT OF TINNITUS AURIUM—ELECTROLYSIS IN THE TREATMENT OF TUMORS AND STRICTURES—OPERATIVE TREATMENT OF BRONCHIECTASIS—MEN AS NURSES—PATHOLOGICAL DEMONSTRATIONS AT THE DUBLIN MEETING OF THE BRITISH MEDICAL ASSOCIATION—COLOR-BLINDNESS—DEATHS OF M. PASTEUR'S PATIENTS, ETC.

A QUESTION of very great importance for the future of medicine in this country was raised by Dr. Whitla's address as President of the Section of Pharmacology and Therapeutics at the Annual Meeting of the British Medical Association in Dublin. The address was, in fact, an admission that the study of these subjects in this country is in a most unsatisfactory state. Dr. Whitla thinks that what we most want at present is not more new remedies, but a better and more precise knowledge of those already in our hands. However this may be, it is unfortunately true that the work done in this country, whether in the discovery of new remedies or the more complete investigation of old, is very small in amount. The Vivisection Act, which prohibits the performance of experiments upon animals except under restrictions which, in their practical operation, prevent most physicians from making such experiments, is undoubtedly responsible for some of our deficiencies. More weight may be attached to the want of properly-equipped laboratories wherein investigators could work. The general result is that we have grown accustomed to look abroad—to Germany, France, and recently also to America—for nine-tenths of our information with regard to the pharmacology of new and old drugs. But we have not the same excuse for our supineness in the study of therapeutics; and it is upon this fault that Dr. Whitla insisted with much energy. He proposes that the British Medical Association should organize a system by which the experience daily accumulated by hosts of observers should be focussed, sifted, and arranged, and that in particular reports should be invited upon certain chosen drugs. There will be many difficulties in the way of carrying out such a scheme, as Dr. Whitla truly perceives, but his answer to all objections is the paramount importance of the subject and the vital character of the questions or problems to be investigated. There will probably be no lack of volunteers, and the committee which he proposes, if it ever gets to work, might do much good by directing the energies of willing workers into profitable channels. The thera-

peutic literature published in this country is not only small in quantity, but is not, as a general rule, of high excellence. If, that is to say, the term therapeutics may be for a moment limited in meaning, so as to include only the application of drugs to the treatment of disease, no candid observer would accuse us of being behindhand either in surgical methods or in the application of those more general agencies which include the personal hygiene and dietary of the sick. Another proof of the stirring of men's minds in this matter is afforded by the formation of a therapeutical society, which will have its home in London. Dr. Sydney Ringer, F.R.S., has consented to become the first president.

The papers read in the Therapeutic Section after Dr. Whitla's address did not contain many novelties. Dr. Quinlan had a paper on Strophanthus, and exhibited some young growing plants struck by W. T. Christy, the well-known drug-merchant. Dr. Quinlan said that the best thing which strophanthus could accomplish was to strengthen a heart enfeebled by continued pyrexia; in typhoid fever, with a tendency to cardiac failure, he had found it a valuable cardiac tonic. In heart-disease its effect was too transient.

In a discussion on Tinnitus Aurium, in the Otology Subsection, Dr. Woakes, who recommended hydrobromic acid some years ago in pulsating tinnitus, stated that the remedy was only of use in that particular class of cases, and its use indiscriminately for all classes of tinnitus would lead to disappointment. Dr. Lennox Browne referred to the diagnostic value of the observation of Dr. Dundas Grant, that when the tinnitus was due to disease of the middle ear it was diminished by making pressure on the carotid. Dr. Barr believed that hypodermic injections of pilocarpine were of use in certain cases; those, namely, in which the tinnitus was due to recent and minute hemorrhages into the labyrinth. He also spoke highly of Lucal's *Tonbehandlung*. This consists in applying a tuning-fork to the external meatus, sounding a note of an opposite character to the noise heard in the ear. For a hissing noise a low-pitched tuning-fork is used; for a humming or bell note, a high-pitched fork.

Your readers are probably already familiar with Dr. Apostoli's novel and, from a pathological point of view, extremely interesting method of treating fibroid tumors of the uterus by electrolysis. The essential point in it is that he has found it practicable to use very strong currents, going up even to two hundred and fifty milliampères. The internal pole is a platinum sound introduced into the uterus, or a platinum trocar pushed into the substance of the tumor. The external pole is a large mass of wet potter's-earth or modelling-clay enclosed in coarse tarlatan and moulded to the surface of the abdomen; in this way the high resistance which the skin offers to the passage of the electric current is overcome. When the uterine pole is made positive, the result of the passage of the current is to check hemorrhage, and to transform a soft, bleeding surface into a firm and dense membrane; when it is made negative, the result is a dissolution of the contiguous tissues and a profound modification in the nutrition of the diseased tissues.

Dr. W. E. Steavenson, physician-in-charge of the electrical department of St. Bartholomew's Hospital, who has had considerable success in the use of electrolysis, was, I believe, the first in England to take up the method, in conjunction with Mr. Bruce Clarke, for the treatment of urethral stricture. He has now, working with Mr. Walter H. Jessop, applied the method to the treatment of stenosis of the lachrymal duct. A metallic probe was passed through the constricted part of the canal and connected with the negative pole of the battery; the positive pole was placed on the arm. The current used was of the strength of four or five milliampères: it was applied for about thirty seconds at each sitting, with very favorable results.

It should be generally recognized that strong currents must be administered with great care, especially when applied, as in this case, in the neighborhood of the base of the brain: even when every precaution is taken, the patient may suffer from faintness, giddiness, and other unpleasant symptoms.

Professor Grainger Stewart, of Edinburgh, has reported a case of bronchiectasis with very offensive bronchorrhœa in a young man aged 27. The usual remedies having entirely failed, and the stench being so offensive as to render the patient's life intolerable, the aid of surgery was called in. Mr. Caird inserted an aspirator-needle, and obtained a thick, purulent fluid. He then made an incision, resected two ribs, and established free drainage. The immediate result was that the temperature fell, there was a total disappearance of the offensive odor, and the patient's general condition and appearance improved much. The drainage-tube was still *in situ* when the report was made, but the condition of the patient was very much improved.

An interesting paper on male nurses for men was read at the Dublin meeting of the British Medical Association by Surgeon-General C. A. Gordon, C.B., Honorary Physician to Her Majesty the Queen. He advocated the employment of men as nurses for sick members of their own sex, basing his opinions upon extensive experience gained in military hospitals at home and abroad. Women had at various times been employed as nurses in military hospitals, but the practice had always died out. In the French army "manual attendance" by a woman upon a wounded soldier was distinctly prohibited. In the English army nurses have been employed for some

years, and in larger numbers since the Egyptian campaign, and there is an intention to extend the scheme in India. One of the difficulties in that country is that the nurses cannot long stand work in the enervating climate of the plains, and there is no place to send them to. Lady Roberts, the wife of the commander-in-chief, has consequently started a fund for erecting sanatoria in the hills for their use. On active service there are, of course, many other difficulties, but the chief seems to be the question of discipline; the experience when the system was first introduced into Netley was said to have been most unfortunate.

Several very interesting demonstrations were given to the Pathological Section of the British Medical Association at Dublin. Dr. Crookshank, who was recently Professor of Bacteriology at King's College, London, showed a large series of micro-organisms, and demonstrated, I believe, for the first time in this country, some of the peculiar bodies (plasmodium malaria and the semilunar bodies of Laveran) found in malarial blood, and recently so admirably described by Prof. Osler in an address before the Pathological Society of Philadelphia. Dr. Acland and Dr. Skerritt showed specimens of arterio-mycosis. Dr. Sims Woodhead, of Edinburgh, gave a most brilliant demonstration on lung diseases, using large stained sections in a lime-light lantern. Dr. Unna, of Hamburg, gave a demonstration in support of his views with regard to the micro-organisms of leprosy: he holds that the micro-organism is a streptococcothrix and not a bacillus; he believes that so-called bacillus is really a chain of cocci within a double sheath, and that when the bacilli were aggregated together the outer capsules fused together, and so gave rise to the appearance described as "leprosy cells including bacilli." The same physician gave an elaborate demonstration of his method of treating skin diseases with his gelatin-glycerin preparations, plaster-mulls, and salve-mulls. The neatness and cleanliness of these applications are very remarkable, and when we have grown familiar with the method of prescribing the applications they will come into general use.

Dr. T. H. Bickerton read an interesting statistical paper at the Dublin meeting of the British Medical Association on color-blindness with special reference to the examination of sailors belonging to the mercantile marine. He showed the practical importance of the subject to the travelling public, but it will probably be difficult to convince the ship-owners or the Board of Trade to take any further practical steps. Dr. Nettleship suggested that notes should be kept of every accident which could be traced to mistakes in the color of signals made by color-blind seamen and railway-men. This seems to be the most useful suggestion which has yet been made, and if every practitioner within whose knowledge such accidents occur would communicate the particulars to the medical press a mass of evidence might be accumulated which could be used with great effect in future stages of the controversy.

Two patients inoculated by M. Pasteur have recently died in the United Kingdom. The first death was that of a groom, Martin Cahill, aged 29, bitten on the wrist on June 14 by a dog which also bit Lieutenant W. Rushmarsh and two fox-hounds. These two dogs died of rabies. Cahill was admitted into St. George's Hospital, London, on August 11, and died of hydrophobia on August 14. The second death was that of Viscount Doneraile; he as well as his groom was bitten last January by a pet fox subsequently found to be rabid; both Lord Doneraile and his servant went to Paris and were treated at l'Institut Pasteur. Lord Doneraile was taken ill on August 22, and died on August 26; his physician, Dr. Hobart, of Cork, had no doubt that hydrophobia was the cause of death. The groom, who is a young man, remains in good health. The deceased was nearly seventy years of age.

The drought, which has hardly yet come to an end, has been the most severe experienced in these islands since meteorological observations have been accurately recorded. It began in the first week in June, and, though a good deal of rain has fallen since the middle of August, there is still great scarcity of water in many localities. In Manchester water is only supplied for a few hours daily; in Bradford the scarcity is still greater, and in a few country places there is still such an absolute drought that water is sent in milk-cans by rail.

A novel defence was made by some milk-dealers in Dublin charged with supplying the Guardians of the North Union with milk containing 24 to 30 per cent. of added water. It was contended by the contractors that the Guardians got what they contracted for. In the contract it was specified that the milk should have seven and a half degrees, and this, or even more, it yielded, the water notwithstanding. The magistrate refused to convict.

An extensive epidemic of scarlet fever of a mild type prevails at present in London. On August 25 there were seven hundred and forty-five cases of the disease in the hospital of the Metropolitan Asylum's Board. Though the cases are so numerous, the deaths last week were below the average.

DAWSON WILLIAMS.

THE general addresses before the International Medical Congress were valuable contributions to medical literature. Abstracts from them will be given in subsequent issues of this journal.

BALTIMORE.

THE American Dermatological Association held its eleventh annual meeting in this city during the last two days. The attendance of members, as well as the number of papers read, was a little below the average. The character of the work done does not compare very favorably with that done at previous meetings, although some of the papers possessed much merit from a clinical point of view. The discussions were carried on in a lifeless sort of way, and the proceedings as a whole lacked interest.

The social features of the meeting were in striking contrast with the scientific proceedings. The Association had never before met in the South, and the present opportunity was improved by two of the members resident in this city to give a decidedly festive character to the occasion. An elegant reception by Dr. Morison and an enjoyable fête at his country-house by Dr. Atkinson furnished distractions which may be, to some extent, accountable for the meagreness of the scientific results.

Among the guests of the Association was Dr. P. G. Unna, of Hamburg, editor of the *Monatshefte für Praktische Dermatologie*, and one of the most prominent of the younger German dermatologists. Dr. Unna is at present in this country for the purpose of attending the Ninth International Medical Congress, of which he is one of the Vice-Presidents. He entered freely into the discussions before the Association, and his terse, positive, and ready expressions of opinion, evidently based upon exact knowledge, compared very favorably with the hesitating and often vague enunciations of his American brethren. German dermatology has an excellent and well-qualified representative in Dr. Unna. In his informal remarks upon leprosy before the Association he showed profound pathological knowledge, as well as a wide command of therapeutic resources.

In electing Dr. I. E. Atkinson, of this city, as its President, the Association honored one of the original members, who is likewise one of the most modest, energetic, and capable dermatologists in the country. No member in the Association better deserved this recognition.

The "burker" Ross, who was condemned to be hung for murdering a poor white woman and selling her corpse to a medical college in this city, as previously mentioned in this correspondence, was temporarily reprieved last week, pending an investigation into his mental condition. Dr. John Morris, of the State Lunacy Commission, has interested himself in Ross's behalf, and is convinced, after investigation, that the condemned man is weak-minded and not mentally responsible for his actions. His representations induced the Governor to postpone the execution, which had been fixed for last Friday, until he could satisfy himself of the responsibility of the prisoner. He has finally concluded to let the law take its course, and to-day the death-warrant was read to Ross for the second time. If no further interposition of executive clemency occurs, Ross will suffer the death-penalty next Friday.

The Deans of the medical colleges are deeply immersed in correspondence, and I am informed that large classes are expected here during the coming session. G. H. R.

BALTIMORE, September 2, 1887.

PROCEEDINGS OF SOCIETIES.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued from page 807.)

CLINICAL NOTES ON BERGEON'S METHOD OF TREATING PHTHISIS. BY DR. F. C. SHATTUCK, OF BOSTON.

THE amount of gas contained in the water recommended by Bergeon is only three cubic centimetres, an extremely small quantity. It seemed to him almost impossible that such a small quantity of sulphuretted hydrogen could have any appreciable effect. The solution which Dr. Bruen employed probably contained one hundred and fifty cubic centimetres of sulphuretted hydrogen. Bergeon attributes the good effects to the antiseptic influences of the gas on the suppurative processes. Dr. Trudeau has found that cultures of the bacteria of suppuration and of the bacillus tuberculosis are unaffected by being kept in an atmosphere of sulphurous acid gas. The speaker had treated only seven cases by this method. They were in an advanced stage of the disease. He had seen such improvement follow careful dietetic and hygienic management that he had not much confidence in the results claimed for special methods of treatment in these cases. Any new method of treatment will often have an apparently beneficial effect through its influence on the mind, even in those cases which are incurable. Six of the cases treated suffered with phthisis, and five were in an advanced stage of the disease. One was a case of chronic bronchitis with asthma and emphysema. Four of the patients suffered with more or less pronounced collapse from the use of the injections; nausea, vomiting, and diarrhœa occurred in several cases. In one case, although the patient was weak, no local or general ill effect was observed. In another case the treatment was continued four weeks with no ill effect. The only benefit obtained was a diminution of the expectoration. In the case of asthma and chronic bronchitis thirty-four enemata were given. The improvement was no more rapid than on a previous occasion, when the patient had been treated in the same general way with the

exception of the gas. He presented the following conclusions:

1. Toxic symptoms may follow the injection of sulphuretted hydrogen gas. These are nausea, vomiting, general depression, collapse, and perhaps headache.

2. Strong artificial solutions of sulphuretted hydrogen gas with carbonic acid gas are apt to cause abdominal discomfort. The risk of this is diminished by heating the solution of the former gas.

3. This is not by any means a specific. If useful at all, it is only as an auxiliary to the more usual methods of treatment.

4. The only benefit which we have seen that could be fairly attributed to the enemata was a diminution in the amount of the expectoration.

In conclusion, the author stated that the impression which he had formed was that the good results which had unquestionably followed this method of treatment were attributable in large part to the stimulation induced by the employment of a novel method of treatment which makes the patient feel that something is being done for him.

DISCUSSION.

Dr. William Pepper, of Philadelphia, said that he had, with the assistance of Dr. J. Crozier Griffith, employed this method in a certain number of cases. The injections were given to thirty-four cases, but in ten of them, either on account of the pain induced or for other reasons, the treatment was discontinued. In the remaining twenty-four cases the treatment was continued on an average twenty-five days. Other treatment was frequently combined with the use of the injections. A daily temperature-record was kept in sixteen cases. In four there was more or less reduction; in eleven there was no appreciable effect. In one the temperature increased, but this was probably a coincidence. In no case was the temperature brought from a febrile to a continuously normal condition. The fall was not more than is seen in similar cases under other methods of treatment.

In twenty cases in which the weight was recorded, there was in eight more or less gain. Eight pounds in thirty-seven days was the greatest gain. In six cases the weight remained stationary, and in six it was diminished.

The improvement in cough was not marked. The expectoration was somewhat diminished in four out of twenty-four cases. Search for the bacilli was made in thirty cases, and they were found in twenty-seven. In eleven cases the examination was repeated, and only in four was there any apparent decrease. Cases of night-sweats were not numerous. In one they were checked, and in seven improved. Physical examination showed no improvement in a single case. The enemata had a decided hypnotic influence in three cases. The only unpleasant symptom of any real moment was colic. This was complained of in eleven out of twenty-four cases. Three others suffered so much that the treatment could not be repeated. The colic was not often controlled by giving smaller quantities of the gas, nor did it seem to be influenced by the slowness of the injection. This method of treatment is seldom of real benefit, although it is occasionally of benefit by relieving certain symptoms.

Dr. H. C. Wood, of Philadelphia, after studying the cases treated by this method, had come to the conclusion that it was of a certain amount of benefit. The method of employing the gas presents many objections. The sulphuretted hydrogen should accomplish the same results when absorbed by the stomach as when taken up by the large intestine. He, therefore, had administered the sulphuretted hydrogen gas in carbonic acid water. He regarded this as a distinct addition to pulmonary therapeutics. It is not a new method. In connection with many of the sulphur-springs of Europe there are chambers fitted up where pulmonary catarrh can be treated by inhalation of the gas.

Dr. Beverly Robinson, of New York, had employed this method for the past two months, and his impression is that it is a valuable adjunct to our methods of treatment. The pain which is experienced in many cases may be due to the fact that there are ulcerations in the intestine. These may be present without the existence of diarrhœa. In a case now under treatment, in which tubercular deposits in the lungs are associated with ulceration of the larynx, he thought that this would be a good opportunity to observe the influence of the gas on the local condition. The man has received a daily injection for the past ten days. There has not been the slightest change in the appearance of the larynx.

Dr. George L. Peabody, of New York, said that his results had not been materially better than those of the gentlemen who had preceded him.

Dr. F. Forchheimer, of Cincinnati, had treated thirteen cases with this method. He performed the following experiment. Two or three patients were treated in the way recommended for some time. Then he had substituted for the sulphur solution plain water, and continued the injections for a time. He had also given the carbonic acid gas by injection, and, lastly, he had for two weeks treated these cases with simple injections of air, using the Bergeon apparatus. The patients in these experiments, of course, did not know that any change had been made in the gas employed. As far as he had been able to judge, the patients treated with air did about as well as those treated with sulphuretted hydrogen. It is clear that the introduction of air is not the cause of the pain in the Bergeon method.

Dr. James T. Whittaker, of Cincinnati, said that he had used the sulphuretted hydrogen gas both by injection and also by inhalation. The effects under both methods of administration seem to be the same. It mitigates the cough, relieves the fever, and lessens the night-sweats. It, however, is not a specific.

ATROPHY OF THE GASTRIC TUBULES—ITS RELATION TO PERNICIOUS ANÆMIA. BY DR. F. P. KINNICUTT, OF NEW YORK.

The author gave the histories of two cases in which the typical symptoms of pernicious anæmia were well marked. At the autopsy in each of these cases nothing special was found in any organ but the stomach. The inner surface of the organ was smooth. Microscopical examination was made of numerous sections removed from different parts of the stomach. Throughout a large extent no trace of gastric tubules was found. In some parts the more superficial portions of the tubules could be found, but the deeper portions could nowhere be made out. There was also seen a peculiar hyaline substance in the shape of tubes and of drops. Numerous irregular cells were seen near the surface of the mucosa. The author thought that in this lesion of the stomach was to be found the explanation of a certain number of cases of pernicious anæmia.

In the discussion of Dr. Kinnicutt's paper, Dr. Francis Delafield, of New York, and Dr. William Osler, of Philadelphia, agreed with the author that there is unquestionably a group of cases of pernicious anæmia in which there are serious lesions of the gastric mucous membrane, although these lesions are not always the same.

A THIRD CONTRIBUTION TO THE STUDY OF LOCALIZED CEREBRAL LESIONS. BY DR. E. C. SEGUIN, OF NEW YORK.

The case reported related to the location of the facial centre. The patient, a boy of 7 years, was first seen in January, 1885. He had been complaining of numbness in the right hand. The right leg and arm were slightly paretic. There was no headache and no aphasia. Shortly after this, clonic convulsive movements occurred in the right cheek, and both eyeballs were turned to the right. This lasted for over two hours. At times the speech was thick. There was no history of serious injury, and there was no evidence of pulmonary, renal, or arterial disease. There was no cranial tenderness on pressure. The tongue, when protruded, deviated to the right. The diagnosis was meningeal adhesion over the precentral region. Iodide of potassium was given in gradually-increasing doses until from sixty to seventy-five grains were taken. Early in April of the following year symptoms of tubercular meningitis developed, and the child died after an illness of three weeks. At the autopsy, the ordinary lesions of tubercular meningitis were found. In addition there was a patch of adhesion situated over the left precentral gyrus and the caudal part of the second frontal gyrus. This was one inch in diameter. This would indicate that in the human brain the facial centre is in the caudal end of the second frontal convolution.

The second case related to the situation of the leg-centre. A patient, aged 49 years, suffered with paresis of the right leg and clonic spasm of the right abdominal muscles. There were right hemi-epileptic attacks, the spasm beginning in the abdominal muscles and extending to the arm and leg. These attacks were repeated without loss of consciousness. Paralysis of the right leg and paresis of the right arm developed. There was no aphasia and no choked disk. Attacks of a syncopal character occurred, in one of which the patient died. At the autopsy a large sarcomatous tumor was found, involving the cortex of the paracentral region gyrus. Two small nodules were found in the white substance below the principal tumor. This would indicate that the nerve-centre for the leg was in the paracentral lobule.

DISCUSSION.

Dr. James J. Putnam, of Boston, with reference to the leg-centre, reported a case recently under his care. A man of forty-five, suffering with locomotor ataxia, probably of syphilitic origin, suddenly developed convulsions of the right arm and leg without loss of consciousness, and without change in the voice. The symptoms relating to the arm entirely passed away, but the leg never recovered its normal condition. The patient died some time later, and at the autopsy a small hemorrhage was found at the lower edge of the paracentral lobule.

Dr. F. T. Miles, of Baltimore, also reported a case suffering with Bright's disease, which suddenly became hemiplegic without the voice being affected. The arm and leg were affected. He rapidly improved, but the leg remained weak. He complained a great deal of a dragging in the shoulder. At the autopsy the only lesion that could be found was a hemorrhage of the size of a bean in the paracentral lobule.

Dr. H. M. Lyman, of Chicago, said that some months ago he had seen a case in which there was a sudden convulsion without loss of consciousness, the left arm being principally affected. These convulsions were repeated. There was a paretic condition of the left arm which, in a few days, extended so as to involve the corresponding leg. The convulsive movements of the upper extremity continued to recur. They did not involve the face. The patient died, and a sarcoma was found on the right side, occupying the position of the centres for the arm and leg.

ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE—AND ON THE SYMPTOMATOLOGY OF CHRONIC LEAD-POISONING. BY JAMES J. PUTNAM, M.D.

This paper consists of an analysis of eighty-six cases in which the urine had been examined for lead. The analyses were made by Professor E. S. Wood and Dr. A. M. Conny, of Harvard University, although no unequivocal signs of lead-poisoning were present. The cases were divided into the following groups:

	No. of Cases.	Lead Present.	Lead Absent.
1. No symptoms not attributable to other causes	11	2	9
2. Neurasthenia and simple mental depression	9	5	4
3. Fine muscular tremor; nervous debility	9	9	0
4. Multiple neuritis; neuritis with chronic myelitis; spastic paraplegia; multiple sclerosis	19	15	4
5. Locomotor ataxia	3	0	3
6. Progressive muscular atrophy	4	0	4
7. Acute poliomyelitis of the adult	1	0	1
8. Cerebral and cerebro-spinal cases	7	6	1
9. Epilepsy	8	3	5
10. Sciatica	2	0	2
11. Vague neuralgias of long stand'g	4	4	0
12. Profound anæmia	3	1	2
13. Unclassified	6	3	3

The number of cases in these groups is too small to be of statistical value, but may help in the further analysis of the cases, and as a basis for further research. Of the eighty-six cases of which the urine was examined, lead was found in forty-eight and was absent in thirty-eight, and there is good reason for believing that the number of cases in which it was found in the urine does not fully represent the whole number in which it was present in the body.

If from the forty-eight cases in which lead was found we subtract those where the patients were known to have been strongly exposed by their occupation or otherwise, we have left thirty-two, to be contrasted with thirty-eight, as approximately representing the ordinary exposure of the community.

It is to be remembered, however, that the patients were drawn mainly from the poorer classes of the community, and that some of them came from country towns or villages where the practice of pumping drinking-water through lead pipes from a distant well—the end of the pipe resting in the well—is still very common. All such cases that were known were, however, excluded. Taking the evidence furnished by the cases themselves, and seeking to endorse it by testimony drawn from the literature of the subject, by the effects of treatment, we arrive at the following conclusions, which are, of course, only to be regarded as provisional:

1. It is probable that lead may cause neurasthenic symptoms which may exist for a long time without other signs of poisoning.

2. The same is true of fine muscular tremor, especially if associated with debility.

3. The most important conclusion is: lead seems to cause occasionally a greater or less degree of the symptoms classed as spastic paraplegia, instead of the usual type of paralysis with atrophy and loss of the deep reflexes.

4. Additional evidence is furnished of the importance of suspecting lead as a cause of vague cerebral symptoms, such as are often due to syphilis.

5. In one case of epilepsy in a person not predisposed, and where the probable first attack occurred at the age of twenty-five, besides the discovery of lead in the urine there was a slight weakness and impairment of electrical reaction of the long extensors of the fingers.

Two cases of ataxia with extensive muscular atrophy and other signs of peripheral neuritis were reported, probably due to lead.

The next paper read was by I. E. Atkinson, M.D., of Baltimore, entitled

FORMS OF TYPHOID FEVER SIMULATING REMITTENT MALARIAL FEVER.

Continued fever simulating remittent fever is often observed, in malarial localities especially, and is often regarded as such or as typho-malarial fever. While it is now generally recognized that the latter title does not designate a specific integral disease, every one admits the frequent concurrence of the two principles. The term is unfortunate as misleading and encouraging lax habits of observation and treatment. The tendency to attribute the later evolution of frank typhoid symptoms from what at first appeared to be a malarial fever to a transmutation of the latter disease to the former, is of course unjustifiable. The theory that typho-malarial fever or continued malarial fever is a combination of a septic and malarial poison, as defended by Loomis and others, is rejected for the reason that the term "sepsis" is used too indefinitely, and cannot explain facts in the course, history, and pathology of the affection, which, however, may be perfectly reconciled with a typhoid origin. It is apparent that the term "typho-malarial" is made to include many groups of atypical cases.

The object of the present paper is to describe forms of typhoid fever in which all the usually characteristic symptoms are absent except mild fever. These cases commonly occur during the late summer and early autumn. They begin with a chill or insidiously, and assume a course of mild remittent type, never passing into a typhoid condition, never developing the characteristic symptoms of typhoid, yet absolutely uninfluenced by antiperiodic treatment. They last three, four, or even five weeks, and almost always end in slow lysis and recovery. They resemble malarial conditions except in the persistence of the fever under strongly anti-malarial treatment, and in the occasional concurrence of

circumstances pointing to a typhoid origin. There is no hebetude, the patient sleeps well, the tongue is slightly coated, there is almost never epistaxis, constipation is commonly observed, there are no bloody stools, no tympanites, no iliac tenderness or gurgling, and rose spots are usually absent. The patient is bright and cheerful. The more severe cases, after beginning as remittents, may gradually evolve typhoid symptoms. Three cases were reported, showing the type of fever described occurring under conditions indicating their typhoid origin. While typhoid fever is one of the most characteristic of diseases, its special symptoms are very inconstant. There is not a sufficient realization of the mildness with which it often runs its course. Walking typhoid, although usually considered rare, is in reality frequent. Cases in which sudden accidents reveal their true nature are probably but a small portion of the whole number. Our views of typhoid fever have been largely modified. Low ranges of temperature are now often encountered. Straube and Fraentzel and others have reported severe forms of the disease with high mortality, although the temperature did not attain 102.2°. Normal, and even subnormal, temperatures are sometimes maintained throughout the attack. In mild cases a slight degree of fever-heat is not at all uncommon. Liebermeister and others report such cases. Loomis treats "mild typhoid" with walking cases, and states that the eruption appears early and is scanty and brief, and that diarrhœa is present in most cases. This is true of many cases; but there is a large class in which constipation is the rule and rose spots the exception, much larger than is generally admitted. Liebermeister and others describe interesting examples. Dr. W. W. Johnston has most accurately described similar cases occurring in Washington. Malaria often complicates typhoid fever, but it oftener happens that its presence is assumed unjustifiably. A mental bias in favor of malaria is often strongly pronounced in the face of the strongest contrary evidence. The diagnosis of these cases from remittent malarial fever often rests upon the crucial test of treatment. It is admitted that occasionally antiperiodic remedies fail to control the malarial paroxysm, especially in pernicious and adynamic forms. In milder forms the behavior under quinine practically solves the difficulty. Where the full administration of the antiperiodic remedy for a number of days fails to terminate the attack, the diagnosis of typhoid fever becomes justifiable, and the prognosis can be made with a high degree of confidence. Not often earlier than the second or later than the fourth week the fever will terminate, almost constantly by lysis, rarely by crisis. There are, however, exceptions, as shown by the occasional occurrence of death in walking typhoid and in other milder cases. Unquestionably, however, many cases of walking typhoid are never detected. They may often, if examined, exhibit characteristic symptoms, diarrhœa, rose spots, splenic enlargement, etc.; but in not a small number these signs are not discovered. The true nature of many of these milder cases is never recognized, and the pathological responsibility is thrown upon febricula, simple continued fever, gastric fever, bilious remittent fever, remittent malarial fever, etc. In the future a solution of the difficulty will be obtained through the knowledge derived from bacteriological research and culture-observations.

DISCUSSION.

Dr. William H. Draper, of New York, said that many cases in New York which have been diagnosticated as typho-malarial fever he considered to be cases of typhoid fever. The diagnosis of typhoid fever can be usually made in the course of the first week of the disease by attention to the characteristic course of the fever. The nervous symptoms of typhoid fever are also of great importance in the diagnosis. In considering a disease like this, it should be studied in its totality. His own experience confirmed that of others with reference to the use of quinine as an antipyretic in typhoid fever: that unless it is given in such doses as to produce a certain degree of collapse it is useless. He believed that it only increases the discomfort of the patient. If in five or six days the use of quinine does not succeed in checking the fever, we may conclude that we are dealing with a continued fever of the nature of typhoid.

Dr. John Guitéras, from an extended opportunity of studying these cases, both in the North and in the South, had come to a conclusion different from that expressed by the author. These cases present no symptom of typhoid fever with the exception of the continued fever, and this is a strong argument against their being typhoid. These cases are so numerous as we go farther South that he would class them as a separate disease. After examining post-mortem cases of prolonged continued fever, he had failed to find the lesions of typhoid fever. In the South we have, of these three diseases, malarial remittent fever at one end, typhoid fever at the other; and between these we have cases of the kind described by Dr. Atkinson. His view of this fever is that it belongs to the class of functional fevers. A simple continued fever may be set up by an excessive demand made upon any of the important functions of the body. He had thought that in warm climates, where constant exertion was required on the part of the heat-centres to keep within limits the production of heat, a paralytic condition of these centres might be induced, especially towards the close of a long and hot summer. This fever presents none of the symptoms of a

malarial affection, and is quite common in sections where malaria is unknown.

Dr. A. Jacobi, of New York, thought it a mistake to say that those cases in which the fever cannot be broken in five or six days by quinine are not malarial. There are cases of remittent fever that will not be broken by quinine. There is one assistance in diagnosis which he had not heard alluded to, and that is the urine-test. This has frequently been of much service to him. It is prepared as follows:

Solution No. 1: sodium nitrite, one part; water, two hundred parts.

Solution No. 2: solfanilin acid, five parts; concentrated muriatic acid, five parts; water, one hundred parts.

Add one and one-fifth parts of the first solution to fifty parts of the second.

Equal parts of this mixture and the urine are to be mixed. Then add about sixty or seventy per cent. of aqua ammoniæ. In normal urine there will be only a slight discoloration, while in urine from typhoid fever there will be a deep purple discoloration. This test is rarely applicable during the first two or three days. It generally can be applied up to the fifteenth or eighteenth day. It should also be stated that in cases of acute miliary tuberculosis the same reaction is obtained.

Dr. W. W. Johnston, of Washington: It is well known that in places where malaria has largely prevailed, as cities have grown and drainage improved malarial affections have diminished and typhoid fever has increased. This has been the case in Washington. It has also been observed in London. The cases of typhoid fever which he had observed may be arranged into three groups: those in which all the symptoms have been present, those in which only one has been present, and those in which all the symptoms with the exception of the fever have been absent. He could see no reason clinically for saying that these cases which do not present the typical temperature of typhoid fever are not cases of this disease. It is not necessary that the temperature should reach any special degree. Any temperature, provided it presents the typical curve, may be characteristic of typhoid fever.

Dr. R. H. Fitz, of Boston: An epidemic of an anomalous form of fever recently occurred in Boston among a number of emigrants. The diagnosis lay between typhoid and typhus fever. It was concluded that they were cases of typhoid fever. One case ended fatally. The intestinal lesions were of the most trivial character. The enlargement of Peyer's patches was no greater than is seen in many cases of enteritis. The lesions were so superficial that it seemed quite probable that they would have disappeared if the case had lived a few days longer.

Dr. Israel T. Dana, of Portland: Some of the cases to which Dr. Fitz has referred found their way to Portland, and one of them died there. The autopsy in this case showed well-defined but not complete lesions of typhoid fever.

Dr. W. J. Councilman, of Baltimore, said that he had expected to hear some allusion made to the examination of the blood as a means of diagnosis. A simple examination of the blood will enable us to differentiate between the continued malarial fevers and typhoid fever. The organisms found in these cases of continued malarial fevers are very easy to recognize. They are large crescentic forms, free in the blood and not contained in the corpuscles. They do not require a high power for their detection.

Dr. William Osler, of Philadelphia, agreed with the last speaker that we have in the microscopical examination of the blood a positive means of diagnosis. In doubtful cases, a careful examination of the blood will determine whether they are malarial or not; while a careful examination by culture-methods will determine whether or not it is a case of typhoid fever.

He mentioned three instances in which the examination of the blood aided in the diagnosis. One was a case of continued malarial fever thought to be typhoid; another was a case of remittent fever supposed to be typhoid. In both these instances examination of the blood showed the case to be malarial. In the third instance the patient had a chill, which was repeated. It was supposed to be a case of remittent fever, but the malarial organisms were not found. The case pursued an atypical course, and when two weeks advanced in convalescence had a well-marked relapse of typhoid fever.

Dr. I. E. Atkinson, of Baltimore, in concluding the discussion, said that he had been much interested in the remarks made by Dr. Guitéras. The cases reported were, he thought, cases of typhoid fever. He had never seen death in these atypical cases. That the cases of fever which occur in this locality, and which present the characters described, are really cases of typhoid fever, and not of malarial fever, was what he claimed in his paper.

At the final executive session, the report of the Committee on the Congress of American Physicians and Surgeons was received and adopted, and Dr. Wiliam Pepper, of Philadelphia (with Dr. Reginald H. Fitz, of Boston, as alternate), was appointed to represent this Association.

OFFICERS FOR THE ENSUING YEAR.

President.—Dr. William H. Draper, of New York.

Vice-Presidents. — Dr. Francis Minot, of Boston, and Dr. J. Palmer Howard, of Montreal.

Recorder.—Dr. William Osler, of Philadelphia.

Secretary.—Dr. Henry Hun, of Albany.

Treasurer.—Dr. W. W. Johnston, of Washington.

The following were elected to active membership: Drs. A. V. Meigs, Louis Starr, and J. H. Musser, Philadelphia; Dr. James E. Reeves, Wheeling, West Virginia; Dr. William H. Whitney, Boston; Dr. James Stewart, Montreal; and Dr. M. Allen Starr, New York.

Dr. John S. Billings, of Washington, was elected to honorary membership.

Adjourned.

BRITISH MEDICAL ASSOCIATION.

Fifty-Fifth Annual Meeting, at Dublin, August 2–5, 1887.

(Continued from page 810.)

DR. W. S. PLAYFAIR, F.R.C.P., LL.D., Professor of Obstetric Medicine at King's College Hospital, presented a paper on

THE PREVENTION OF PUERPERAL FEVER.

"The subject which I have the honor to introduce to you for discussion cannot fail, I think," said the Professor, "to interest those upon whom the responsibility rests of attending women in labor. The prevention of the scourge of midwifery practice, septicæmia, is one of the most important duties. In the short space of a quarter of an hour allotted me it will be impossible to do more than lay down a few general rules which should guide us. In lying-in hospitals, since the revolution of antiseptics, marvellous change has been effected. I am more particular to-day to insist on the prevention of puerperal disease in private and domiciliary practice. In the well-conducted lying-in hospital of to-day a woman is actually as safe, if not safer, than if confined at home in a large house and surrounded by all the comforts money can procure. The great Rotunda Hospital of this city, and the lying-in institutions of London, Paris, and St. Petersburg, as well as of other Continental cities, prove what I have said. There is nothing in the history of medicine more remarkable than the change in these institutions since the adoption of the life-saving principles of Lister. I doubt if such a thing can be found now as a hospital for lying-in in which antiseptic rules have not been adopted, and in which similar good results have not followed it. Though recognized and practised in public practice, I doubt if even yet antiseptic midwifery is at all general in private practice. Called to see septic cases as a consultant, I very seldom find that the practitioner in attendance has followed out the rules in such general use in lying-in hospitals. Perhaps when the younger class of practitioners get more into the work it will be different; but with the bulk of men now in practice no special care is taken. In civil practice similar care and precautions to those practised in institutions—a matter of no real difficulty to practise—should almost wipe this scourge out of existence. Pritsch daily dressed a putrid wound in the person of his brother for a whole year, and at the same time daily performed two or three obstetric operations, and by a vigorous antisepsis has not had a single case of septicæmia during the whole time.

"To show how simply this may be done and to elicit your views on this subject is my object to-day. I have no time for argument, and must perforce be brief and content myself with dogmatic statements. To prevent puerperal fever we must have an intelligent idea of what it is, how it originates, and how it may be conveyed to the patient. Unless we are agreed on these points, we are not likely to come to any conclusion of value. I take it to be now almost universally admitted that puerperal septicæmia is practically the same thing as surgical septicæmia,—a disease caused by poison absorbed through the genital tract into the system, which poison may either originate *de novo* or be conveyed to the patient from without by septic matter being brought in contact with her. We should manage her so as to reduce the chance of absorption to a minimum, closing as much as possible the channels through which septic matter is to be absorbed, by thorough and permanent contraction of the uterus, and by lessening absorptive surfaces offered by perineal lacerations and the like. How customary it is to find the binder hurriedly applied, with the uterus imperfectly contracted, remaining large and flabby underneath it, distended with clots, which frequently breed mischief! I practise and teach never to remove the hand from the uterus for at least twenty minutes after the removal of the placenta, keeping up a continuous though not rough rubbing or kneading. I believe it also good practice at this time to administer a large dose of ergot, and, if contractions do not set in, to make a hypodermic injection of ergotin or ergotinin. Personally I have never seen any harm result from the routine administration of ergot.

"As to perineal lacerations, I think the rule should be absolute that the perineum should be inspected after labor, and that every tear more than a slight laceration of the fourchette should be closed with catgut or wire sutures, first cleansing thoroughly with the bichloride of mercury solution, and subsequently dusting with iodoform night and morning. Thus any chance of absorption through the bared perineal surface is avoided, and complete healing is insured.

"Most important, however, are the antiseptic precautions by which we are to prevent the poison being introduced from without. This, indeed, is the essence of the whole matter. The vast majority of cases of puerperal septicæmia, to my mind, arise directly from poison carried to the patient by some prevent-

able accident. This is an unpleasant fact; but we must look unpleasant facts in the face. The nature of the medical man's work brings him constantly into contact with septic matter. There is no avoiding this. What we have to do is to take the precautions happily at our disposal to avoid the risk or reduce it to a minimum. The obstetrician, if he has much gynæcological practice, is especially in danger of infecting his patient. He has, in constant vaginal examinations, to imbue his fingers with vaginal discharges which may be of the utmost possible virulence, such as of uterine carcinoma. Many have infected themselves in this way through punctured wounds of the finger, and why not infect others?

"If I dwell on unpleasant topics such as these, my only object is to secure a thorough appreciation of their danger and its avoidance. The nurse has often, and justly, too, the blame to bear. She is constantly handling the genital organs at all hours for many days. Many of the older class of nurses persistently set themselves against the antiseptic precautions, 'new-fangled fads which they don't hold with.' If they are positively ordered to carry them out, they are apt to do so in the most perfunctory way. The tips of the fingers are just dipped into the antiseptic lotion. A sponge is used to wipe the genitals, and is put away unwashed or most imperfectly washed on a hot summer day. Quite recently I had occasion to use a catheter, and the nurse produced one belonging to her. I fished out of the eye a decomposing blood-clot, which had been lying there for days or weeks. Again, not long since I saw a most intense case of septicæmia; the nurse assured me that she had been most careful, and yet I found an under-sheet unchanged for four days, saturated with lochia, on which the patient was lying. In a hundred unsuspected ways such as these death may be conveyed to the patient. If, however, efficient antisepsis is to be carried out, the rules must be such as the nurse can understand, and not too complicated and troublesome to put into execution."

This is a copy of the card he gives to every nurse in attendance on cases under his charge.

"*Antiseptic Rules for Monthly Nurses.*

"1. Two bottles are supplied to each patient. One contains a solution of perchloride of mercury, of the strength of one part to one thousand of water, tinted with litmus (called the one to one-thousand solution); the other carbolized oil (one to eight).

"2. A small basin containing the one to one-thousand solution must always stand by the bedside of the patient, and the nurse must thoroughly rinse her hands in it every time she touches the patient in the neighborhood of the genital organs for washing or any other purpose, before or during labor, or for a week after delivery.

"3. All sponges, vaginal and rectal pipes, catheters, etc., must be dipped in the one-to one-thousand solution before being used. The surface of slippers, bed-pans, etc., should also be sponged with it.

"4. Vaginal pipes, enema tubes, catheters, etc., should be smeared with the carbolized oil before use.

"Unless express directions are given to the contrary, the vagina should be sponged twice daily after delivery with warm water, with a sufficient quantity of Condy's fluid dropped into it to give a pale pink color.

"All soiled linen, diapers, etc., should be immediately removed from the bedroom.

"N.B. These rules are for the protection of the patient from the risk arising from accidental contamination of the hands, or by sponges. It is therefore hoped they will be faithfully and minutely adhered to."

There is nothing complex in these rules. The details may be varied considerably as to the form of antiseptic employed, etc. It is the principle of antiseptics more than the details which is important. He prefers the perchloride of mercury to any other antiseptic, not only because of its acknowledged potency, but because it is bland and unirritating to the skin, and capable of being carried in a concentrated form and the solution made at a moment's notice. Nurses will not use a carbolic lotion, or use it inefficiently, because of its tendency to injure the hands, while he had never known one to object to the mercurial solution. He does not recommend it for vaginal injections after labor, because of a few cases of mercurial poisoning that have been reported to follow its use in this way.

There are a few precautions to be used during the labor for the physician himself.

1. Before making any examination or using the antiseptic lotion, he should thoroughly cleanse his hands with soap and water, being specially careful about his nails, under which septic matter may easily lurk.

2. At an early stage of the labor the vagina should once be thoroughly syringed with antiseptic lotion, and the vulva sponged with it.

3. When the head is distending the perineum, the external genitals should again be sponged with the solution.

4. Cold cream, lard, etc., should not be used for lubricating the fingers, but carbolized oil or vaseline employed instead.

5. When possible, sanitary towels should be used to receive the lochial discharges in preference to diapers, as they may be burned when soiled. All risk from imperfectly-cleansed diapers is thus avoided.

In conclusion he said, "I do not think these suggestions impose a grievous burden upon the practitioner who has the welfare of his patient at heart. There are many other points on which I might dwell if time allowed. One which seems particularly important is the duty of satisfying our-

selves of the sanitary condition of the house in which our patient is to be. It is but seldom, however, our opinion is asked on this point. Unfortunately, the public believes it is the duty of the physician to cure disease when it arises, not to prevent it. Meddling with such matters beforehand would be too often considered an unjustifiable interference. I am fully convinced that if a careful sanitary inspection were instituted before parturition, a great step would be taken towards attaining the object of this paper,—'the prevention of puerperal fever.'"

DISCUSSION.

Dr. Lombe Atthill, of Dublin, said he was a firm believer in septicæmia. The term puerperal fever he abhorred. It is caused by septicæmia. He was the first master in the Rotunda Hospital to require antiseptic precautions, which were then very imperfect. He had to undergo great opposition. Especially was this so with the nurses. It was indeed an effort to get them to part with their old, black, dirty dresses, and put on the uniform. They thought that to be compelled to wear such dresses as these in winter was nonsense. A relaxed condition of the uterus is a common cause of septicæmia. He remembered one patient who came into the Rotunda in labor. No physician was present at the time; but the nurse saw there was something the matter with her, and put her in a private ward, separate from the other patients. He was soon called, and found the patient to be suffering with erysipelas. She could not be put out of the house in labor, but after delivery she was sent to another place, only remaining in the hospital fifteen hours. There had been no case of puerperal fever for months before, yet there was one before twenty-four hours, and this was followed by several others, then they gradually disappeared. He thought, however, these were due to atmospheric conditions, and not to the presence of the woman in the hospital. Contamination in that case was hardly possible under the conditions. He believed that the preliminary treatment of puerperal fever will prevent puerperal fever in many cases. He did not believe that ergot given in a single dose will produce any effect. It should be given frequently.

Dr. M. T. Molony, Arklow, Ireland, said that in his city of six thousand inhabitants there had been an epidemic of scarlet fever for months. During this time there was no case of puerperal fever, and no approach to one. The scarlet fever was of a mild type, yet some cases were quite malignant. They had many cases of sore throat, some of them malignant, and some tonsillitis, etc. The town is the most unsanitary place on earth. As medical officer he attended most of the cases of labor, but used no antiseptics except on his forceps.

Dr. C. H. P. Routh, of London, thought that women in an unhappy state of mind (as those who had been seduced), as has been shown by Dr. Barnes, are much more likely to suffer with puerperal fever.

Dr. John M. Byers, of Belfast, was a thorough believer in the septicæmic view of puerperal fever. He asked, How can gentlemen maintaining views of other causes of puerperal fever explain the results of antisepsis in hospitals? Our nurses should be firm believers in antisepsis. Opinion is now going in the direction that the number of cases which are autogenetic is diminishing. The doctor then quoted from a paper by Dr. E. C. Linke, of Cincinnati, read before the American Medical Association in 1887, and published in the *New York Medical Record*, where the question of "How soon after exposure to infection can you attend a woman in labor?" was discussed and the opinions of prominent authorities were quoted. These opinions were at variance. It was a question he would wish answered.

Dr. Samuel Sloane, of Glasgow, said that antiseptics in the hospital in Glasgow have reduced the mortality very much. We cannot do without antiseptics. We should look more to antiseptic measures than we do. Close rooms in winter are more productive of puerperal fever than chills.

Dr. Moorman, of Edinburgh, thought the plan to stamp out puerperal septicæmia was a Utopian idea. How can we stamp out atmospheric conditions, lochial discharges, etc.? The patient should be prepared beforehand. She should be given the chloride of iron, quinine, potash, etc.; also ergot in small doses before labor is innocuous and acts beneficially. Is the prevention of puerperal septicæmia the function of the nurse more than of the doctor? It is not at all above the dignity of the obstetrician to look after the nurse. He closed by recommending uterine injections.

Mr. Lawson Tait said that, with Lombe Atthill, he abhorred the name of puerperal fever. The practitioners in his neighborhood had been giving him the opportunity to open the abdomen in cases of puerperal septicæmia, which operation was followed by good results. There are two kinds: one is systemic, and medicine and surgery are powerless; the other is local, and the patient can be saved. He had recently been called into the coroner's court to testify in a case where sixteen cases of puerperal fever had occurred in the practice of one man, all of which died. He inquired, and found that the most elaborate antiseptic precautions had been made and carried out. He did not inquire too closely, fearing to find out too much, but, after the trial, remembering that all the cases of puerperal septicæmia had been forceps cases, he asked him what precautions he had taken with his forceps. He replied, None. There was the whole secret.

Dr. H. Cameron, of Glasgow, had seen five

cases of puerperal septicæmia in one man's practice. He found that he had not been in the habit of disinfecting his forceps. He advised him to disinfect his forceps and burn his leather bag.

Dr. W. H. Humiston, of Cleveland, Ohio, said, If, as one gentleman has stated, puerperal fever is an epidemic disease, and occurs in waves without any assignable cause, why does it not now occur in the lying-in hospitals at Dresden, Prague, and Vienna? In these very same institutions, prior to the adoption of strictly antiseptic precautions, the mortality from puerperal septicæmia was appalling, ranging from ten to eighteen per hundred.

It had been his privilege to visit those institutions and observe their methods of conducting their obstetrical cases. They are most careful, and insist on the highest degree of cleanliness obtainable by frequent washing of hands and instruments with soap and water and antiseptic solutions. When Professor Leopold took charge of the Dresden Lying-In Hospital the mortality was thirteen per cent.; by strict antiseptic precautions it was brought down to *nil*, and has so remained for several years, not a case occurring within its walls.

One gentleman has asked how soon after having come in contact with septic material is a physician justified in attending a case of obstetrics. The reply was, at once, allowing time for change of clothes and thorough washing with reliable antiseptic solutions.

In Carl Braun's wards in the lying-in department of the general hospital at Vienna the assistant has charge of the wards, and takes personal charge of all complicated cases. At the same time he is daily giving operative courses upon the cadaver to students and practitioners, and the speaker had seen him summoned from the operative table in the pathological building to make a forceps-delivery. He would remove his overcoat and proceed to most careful washing of the arms and hands. The speaker never saw septic trouble arise in cases so managed.

One important point, which is original, and it is hoped will be found reliable in practice, is the indication that the specific gravity of the urine gives in foreshadowing coming disorder. If before and soon after delivery the specific gravity of the urine is markedly below 1020, look out for breakers ahead, for with the great amount of effete matter to be carried out of the system, if the elimination be sufficient the urine should be of high specific gravity.

Dr. A. V. Macan, of Dublin, said, We are all agreed that sepsis is a great danger after delivery. What is the relative danger of sepsis and other causes? If antisepsis reduce the cases so enormously, the great majority must be caused by sepsis. The remainder we will present to those who think there are other causes. It is a small present. Even in the heterogenic, sepsis must be introduced. He declared that allowing a nurse to go out to follow the calling after a three weeks' training, as is the case in London, is a disgrace to civilization. Here in the Rotunda we think six months little enough.

Dr. Playfair, in closing the discussion, said, Puerperal fever was not used in the paper, yet that term was heard again and again in the discussion. Cold and chill may produce a puerperal disease, but not puerperal septicæmia. No one is more fully possessed than himself with the idea of preparing a patient against puerperal septicæmia. The allotted time was far too brief to allow him to go over the whole ground. He did not believe that there ever was an epidemic of puerperal septicæmia. It does not come in this way. It is totally different from cholera and that class of diseases. This is a most dangerous theory. Puerperal septicæmia may be introduced through the atmosphere.

Dr. Arthur V. Macan, of Dublin, Master of the Rotunda Hospital, and President of the Section, made

THE ADDRESS IN OBSTETRICS.

After thanking the Section for the honor done him by electing him President, and welcoming the members to Dublin, and inviting them to make themselves at home at the Rotunda Hospital, the President proceeded to tell in what ways the practice of the Rotunda Hospital differed from similar institutions elsewhere. It was, first, the use of abdominal palpation in every case of labor, together with the practice of external version whenever necessary. Second, our time-honored and now almost universally adopted method of conducting the third stage of labor. Third, the application of antiseptics to midwifery. This he knew has been done with success in several other places, and, as it will be embraced by one of the subjects fixed for discussion, he need not here mention it. In regard to gynæcology, our practice differs from that of most of the teaching-centres in this kingdom in the systematic employment of bimanual examination, the patient lying on her back instead of on her side, the washing out and curetting of the uterus without previous dilatation of the cervix, and, lastly, the theories held as to the normal position of the uterus and the treatment of displacements of that organ which follow.

To begin, then, with the systematic lateral palpation of the abdomen in every case of labor. There are probably few in this company who have not experienced a feeling akin to despair at the difficulties to be overcome before the child's position, even in the least complicated cases, could be determined by vaginal examination. If the labor be protracted, and a caput succedaneum has formed, the diagnosis becomes almost impossible. He believed that a large number even of experienced practitioners used to content themselves

with diagnosticating whether the head presented or not, and never troubling themselves further. The position was too often that the woman was lying on her left side, the practitioner standing behind her, and the child placed upside down in the woman's abdomen. This made the mental process very complicated, so much so that the students were recommended by some text-books to cut the figure of an imaginary pelvis out of paper to assist them. All that is now changed, and any person with ordinary abilities can learn to make out the child's position after a very short apprenticeship. If then they are called on to deliver artificially they can do so intelligently. We can not only make out the position of the child, but we can also generally determine whether the child be large or small, what the quantity of liquor amnii is, and whether the birth be plural or single, and, probably the most important of all, we can determine whether the head be proportionate to the pelvis or not, by the projection of the head over the pubes and the extent to which it can be made to enter the front of the pelvis by firm pressure applied externally. Finally, there is no such school for learning the palpation of abdominal or other tumors as the palpation of the pregnant uterus.

He mentioned that we can often feel the arm of the child going out from the shoulder, while occasionally the elbow may be made out. In one case a hydrocephalic head was readily distinguished, in another the probability of the fœtus being anencephalic was foretold, while in one case the cord has been felt crossing the child's back, and quite recently we have thought that we have made out the placentic *situ* by the fingers being lifted off the child and the outlines being undeveloped.

To resume briefly, the points that can best be determined by the lateral examination are: 1st, the fact of pregnancy; 2d, the period of pregnancy; 3d, size of the child; 4th, condition of the bladder; 5th, axis of the uterus; 6th, condition of the abdominal wall; 7th, abnormal condition of the ovum, such as twins, hydrocephalus, anencephalus, hydatid mole, and frequently the life or death of the fœtus. Further, it directly leads to the practice of external turning, renders the finding of the fœtal heart simple, and generally enables us to estimate whether the pelvis be contracted or not. In these latter cases we also made out a low continuous murmur, like the uterine souffle, over the supposed placental *situ*. Of course, cases in which the placenta can be palpated will always be rare. To make them possible the placenta must be planted on the anterior abdominal walls, and the condition of the wall of the uterus, etc., must be favorable to palpation.

The step from the accurate diagnosis of the position and posture of the child to external turning is an almost imperceptible one. We can sometimes turn the child by the pressure of a couple of the fingers of one hand on the head. Such cases are exceptional, however, and the difficulty gradually increases with the tension and thickness of the abdominal walls, the fixation of the presenting part in the pelvis, and the passiveness of the patient, until we come to cases when we must first mobilize the presenting part by drawing it out of the pelvis from the abdomen or pushing it upward by the finger in the vagina, and, finally, to such cases where external turning even under chloroform is impossible. The cases in which we have found external turning of most importance, besides the mere rectification of a breech- or transverse-presentation, are cases of funis-presentation, whereby turning the funis may be carried on with the part presenting; also in cases of head-presentation with antero-posterior contraction of the pelvis when we wish to extract by the foot. With the head on the perineum and delayed labor, we can use a very great amount of force by pressure on the abdomen; in fact, we can get the whole weight of the body, almost, to bear on it. Suppose that much of this weight is lost by maldirection, we still have enough to very materially aid the progress of the case and lessen the number of forceps-cases. Schroeder has shown that it is want of power in the abdominal walls that delays the expulsion of the child. If the expelling force is a little less than the combined resistance, the child must, so to speak, remain forever in the same position. In such a case the addition of a single pound may be sufficient to expel the child. Further, the experience learned by palpation is a great help in the conduct of the third stage of labor, as it is much easier to rectify malposition before the strong uterine pains have set in. It is advisable for the woman to be examined some time, say a fortnight, before the estimated time of labor, in order to ascertain by the degree to which the head has entered the pelvis whether there be any disproportion or not. If there is much liquor amnii, and the child is very movable, we may expect malposition, and we should watch that we have the head well into the brim before the membranes rupture. The same may be said of prolapse of the cord. Having determined the position of the child, we find the auscultation of the fœtal heart very much easier.

Next as to the third stage of labor. As soon as the child's head is born, the hand is placed on the fundus of the uterus, the ulnar side looking towards the vertebral column, the palmar towards the axis of the uterus. The child's eyes are then carefully wiped, and a finger passed into the vagina to see if the cord could be around the child's neck. If the uterus does not expel the child, or it should make any exertion at respiration, pressure is made on the uterus, which is generally sufficient to cause the expulsion of the child. This subject received considerable attention.

Following down the uterus with the hand as the fœtus is being born, and keeping up a pressure until the placenta is expelled and the binder applied, has been the course pursued in the Dublin Lying-In Hospital since the membership of Joseph Clarke (1786–1793), and is now almost universally followed by all educated practitioners.—(McClintock's edition of Smellie's "Midwifery.")

On looking over Dr. Charles Johnson's ward-book bearing date of 1848 there is seen after numerous cases the terse statement, "Placenta pressed out." This was such common practice as to need no further explanation. If we consult Spiegelberg we will find that he accurately discriminates between the Dublin method and the then lately-introduced method of Credé, and gives his verdict entirely in favor of the former. Schroeder also accurately describes the two methods, and adopts entirely the Dublin method. We have, then, the curious fact that whereas in Germany the highest authorities are in favor of the Dublin method, in the latest English textbooks the writers recommend Credé's method, —or, rather, he would say, while describing and recommending the Dublin method they call it Credé's. As an Irishman, and the present Master of the Rotunda Hospital, he could not but hope that after this meeting of the British Medical Association this mistake may be corrected, and in the future the method may be known after the term in which it first saw light, as the "Dublin method."

The President then devoted some few words to the bimanual examination, strongly favoring the dorsal as compared with the lateral position. Such assertions as that this position was brutal or indecent he strongly denied.

Dr. M. Q. McCallahan, of Brailsford, read a paper on

A MONTH'S ABDOMINAL SECTIONS BY MR. LAWSON TAIT.

This consisted of a brief report of thirty-five abdominal sections, of course all recovering, —some of them almost snatched from the grave. Several were done for septicæmia.

Mr. Tait, who was present, said that the reports just read would show how he selected his cases. This cry about the selection of cases is an absolute falsehood. One case reported here was one he would certainly have been excused from operating. The woman was brought in in a state of collapse, almost dead. He had done three hundred laparotomies, with but two deaths, and he did not care to add another. He confessed that it was a temptation to refuse, but thought he must give the woman a chance for her life, slight as it might be. The result was wonderful. Suppose some one of our "tramp visitors" had come along and seen this case. He would have gone away, saying, "Lawson Tait is the most reckless operator I ever saw."

Dr. Robert Barnes, of London, expressed unqualified admiration of Mr. Tait and his results. He thought the surgery of the abdomen and that of the brain were epochs in surgery. He was glad to know that they were British productions, and that we are not indebted for them to the Germans.

Several other speeches laudatory of Mr. Tait and his methods were made.

A paper was read by Dr. Apostoli, Professor of Gynæcology and Electro-Therapeutics in Paris, in the Section of Obstetrics and Gynæcology, on his method of

ELECTRICAL TREATMENT OF FIBROID TUMORS OF THE UTERUS.

On account of the insecurity of surgical measures and the insufficiency of therapeutics, the doctor had been led to search for a method free from these evils. He had founded a method which he termed "Galvano-Chemical Cauterization of the Uterus." Electricity till now had not given the results hoped for, because it had been used in a vague and indefinite manner. By his method we have precision, energy, better localization, and thorough control. In bleeding fibroids he had come to consider the positive pole the medicament *par excellence.*

From galvano-puncture he feared bad results in the hands of the careless and uninstructed. He insisted upon the following precautions: absolute and regular antiseptic irrigation of the vagina after each operation; the punctures should be made with a small trocar or a needle, and should not exceed two centimetres in depth; they should be made in the most prominent part of the tumor, if possible in the posterior cul-de-sac; puncture should be made without a speculum; pulsation should be looked for, thus avoiding large vessels, and hemorrhage should be promptly stopped.

At the end of the paper he gave a statistical statement of his results:

"From July, 1882, to July, 1887, I have had under my care 278 patients with fibromas or hypertrophy of the uterus in some manifest degree, upon whom I have used 4246 applications of currents of electricity. The patients and operations may be thus classified:

"I. Clinique: 186 patients and 2347 operations,—1433 galvano-cauterizations, positive, intra-uterine; 593 galvano-cauterizations, negative, intra-uterine; 321 galvano-punctures, negative, vaginal.

"II. Private: 92 patients, 1899 operations, —1085 galvano-cauterizations, positive, intra-uterine; 746 galvano-cauterizations, negative, intra-uterine; 68 galvano-punctures, negative, vaginal.

"As I said before, I do not wish to convey the impression that all these patients have been cured. It is not so, for the reason that some of them have not persevered to the end, especially in the clinique, the attendance hav-

ing been discontinued upon the first feeling of amendment. But I can affirm that, where there has been no negligence, ninety-five times out of one hundred permanent benefit has been acknowledged. I may also predict that, if adopted in its integrity and worked out as it should be, the mortality henceforward will be nothing. The following is a report which gives occasion for melancholy comparison. Among the patients who had not the will to let me finish the work begun, and whose impatience led them voluntarily to seek the removal of their tumors by excision, seven put themselves into the hands of our most eminent surgeons, and not one of the seven recovered from the operation. Comment on this would be superfluous."

He said, in conclusion, "One word in parting. Men and their labors can in general only find their proper level and value through the esteem of their associates and the way in which their work is publicly accepted. If my method ever meets with the confidence of the profession (speaking now of England), it will be mainly due to your illustrious countryman, Sir Spencer Wells, who was one of the first to extend to me the benefit of his experience and authority, and to his learned friend, Dr. Woodman Webb, whose name will ever be coupled with its introduction and diffusion. It would be injustice were I not also to refer to the honor such distinguished gynæcologists as the Keiths (father and son), Playfair, Savage, Elder, and others have done me by their visits and the encouragement given me by their approbation. I cordially thank all who are present, and assure you that the best recompense of the work of my life will be to find many of you becoming my followers."

NOTES AND QUERIES.

COMMONWEALTH OF PENNSYLVANIA.

STATE BOARD OF HEALTH.

EXECUTIVE OFFICE, 1532 PINE STREET,
PHILADELPHIA, September 1, 1887.

A special meeting of the State Board of Health was held on Thursday, September 1, 1887, at the Executive Office, No. 1532 Pine Street, Philadelphia, to take action in reference to the death of the late President of the Board, Dr. Edward William Germer, of Erie, when the following resolutions were adopted:

Resolved, That this Board has heard with profound regret of the decease of its valued fellow-member and late President, Dr. Edward William Germer.

Resolved, That in a thorough and intelligent understanding of the principles of state hygiene, learned at the feet of Europe's earliest teacher in this most important branch of medical science, he had few equals, and in untiring energy, courage, and self-devotion in their practical applications in times of public danger no superior.

Resolved, That while the Board, in its official capacity, has lost an able, wise, and faithful member, whose whole energies were devoted to the good of the people, as individuals we mourn the departure of one whose endearing social qualities and warm emotional nature made him a delightful companion and a true friend.

Resolved, That copies of these resolutions be forwarded to the daily and medical press, and that a copy be sent to the bereaved family.

OFFICIAL LIST

OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 4, 1887, TO SEPTEMBER 10, 1887.

LIEUTENANT-COLONEL JOSEPH R. SMITH, SURGEON.—Ordered to report in person to the Surgeon-General of the army on September 2, 1887, on business connected with the public service, and on completion thereof to return to his proper station. Par. 9, S. O. 198, A. G. O., August 26, 1887.

MAJOR C. C. BYRNE, SURGEON.—Detailed as a member of the Army Retiring Board in Washington City, *vice* Captain Washington Matthews, Assistant-Surgeon, relieved. Par. 2, S. O. 208, A. G. O., September 7, 1887.

MAJOR R. M. O'REILLY, SURGEON.—Ordered to proceed to Fort Niagara, New York, on public business, and upon completion thereof to return to his proper station, Washington, D.C. Par. 10, S. O. 205, A. G. O., September 3, 1887.

CAPTAIN H. O. PERLEY, ASSISTANT-SURGEON.—Ordered to accompany battalion of the Twenty-third Infantry from Fort Wayne, Michigan, to Chicago, to participate in the International Military Encampment to be held in that city in October next. Par. 1, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

FIRST-LIEUTENANT W. B. BANISTER, ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for extension of one month, to take effect upon arrival at Fort Lowell of Assistant-Surgeon J. B. Girard. Par. 4, S. O. 91, Headquarters Department of Arizona, August 29, 1887.

FIRST-LIEUTENANT WILLIAM N. SUTER, ASSISTANT-SURGEON.—Ordered to accompany Battery "E," Third Artillery, from Washington Barracks, D.C., to Philadelphia, on the 14th instant, to participate in the military parade during the celebration of the centennial of the adoption of the Constitution, September 15, 16, and 17, 1887. Par. 3, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U.S. NAVY FOR THE WEEK ENDING SEPTEMBER 3, 1887.

MEDICAL-DIRECTOR RICHARD C. DEAN.—Detached from duty as member of Examining and Retiring Boards, and to hospital at Chelsea, Massachusetts.

MEDICAL-DIRECTOR GEORGE PECK.—Orders as delegate to International Medical Congress revoked.

SURGEON M. H. SIMONS.—Detached from the "Constellation," and to the Naval Academy.

SURGEON B. F. ROGERS.—Detached from marine rendezvous, New York, and to the "Alliance."

ASSISTANT-SURGEON JAMES G. FIELD.—Detached from the "Vermont," and to marine rendezvous, New York.

ASSISTANT-SURGEON C. P. HENRY.—Ordered to the "Ossipee."

PASSED ASSISTANT-SURGEON G. P. LUMSDEN.—To the "Boston."

ASSISTANT-SURGEON LOUIS W. ATLEE.—Restored to duty.

There have been no changes in the Medical Corps of the Navy for the week ending September 10, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U.S. MARINE HOSPITAL SERVICE FOR THE TWO WEEKS ENDING SEPTEMBER 10, 1887.

SAWTELLE, H. W., SURGEON.—Granted leave of absence for fifteen days, August 31, 1887.

CARMICHAEL, D. A., PASSED ASSISTANT-SURGEON.—Granted leave of absence for thirty days, September 5, 1887.

FATTIC, J. B., ASSISTANT-SURGEON.—Ordered to Cairo, Illinois, for temporary duty, September 6, 1887.

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